THE

Journal of the American Medical Association.

EDITED FOR THE ASSOCIATION BY N. S. DAVIS.

PUBLISHED WEEKLY.

Vol. IX. CHICAGO, SEPTEMBER 10, 1887. No. 11.

NINTH INTERNATIONAL MEDICAL CONGRESS.

INAUGURAL ADDRESS.

Delivered Monday, September 5, 1887, in Albaugh's Opera House, Washington, D. C.,

BY NATHAN SMITH DAVIS, M.D., L.L.D.,

PRESIDENT OF THE CONGRESS.

GENTLEMEN:—It is my sad duty first to remind you that *death* has removed from among us *one* to whom, more than to any other, we are indebted for the privilege of having the Ninth International Medical Congress in America. *One* whose urbanity, erudition, valuable contributions to medical literature and eminence as a teacher, caused him, not only to be universally regarded the most influential leader in all the preparatory work, but also *the one* unanimously designated to preside over your deliberations on this occasion.

That *one* was the late Professor Austin Flint, of New York, who was taken suddenly from his earthly labors early in 1886, before the work of preparation for this Congress had been half completed. The true nobility of his private and professional character, his eminent ability as a teacher, and above all the number and value of his contributions to the literature and art of medicine, had caused him to be known and esteemed by the profession in all countries. And as you all remember, while the shock of his death was fresh upon us, our loss seemed well-nigh irreparable; but though he has taken his departure ripe in years and full of honors, yet the influence of his excellent example and his contributions to medical science remain, and will continue to exert their beneficent influence through all the generations to come.

With a full consciousness of my own deficiencies and still with a heart overflowing with gratitude, I thank you for the honor you have bestowed in selecting me to preside over the deliberations of this great and learned assembly. It is an honor that I appreciate as second to no other of a temporal nature because it has been bestowed, neither by conquest nor hereditary influence, nor yet by partisan strife, but by the free expression of your own choice.

Addressing myself now more directly to those here assembled, who have left homes and loved ones in other lands and encountered the fatigue and danger of travelling by sea and by land, in the name of the Medical Profession of this country I welcome you, not only to this beautiful city and the hospitality of its citizens as has been so admirably done already by the honorable representative of the Government, who has just taken his seat, but I cordially welcome you to the open arms and warm hearts of the medical men of this *whole country*, in whose name you were invited here three years since, and whose representatives are now here, side by side with you, gathered from the East, the West, the North, the South, as well as from the rugged mountains and fertile valleys of the Centre, to make good the promise implied by that invitation.

If they do not cause you to feel at home and happy, not only in the social circles and halls devoted to the advancement of science, literature and art in this city of our Nation's pride, but wherever you may choose to roam, from the rocky coast of New England on the Atlantic to the Golden Gate of the Pacific, it will be from no want of earnest disposition to do so.

And now, I not only thus welcome you from other lands, but I take great pleasure in greeting you one and all as leading representatives of a profession whose paramount object is the lessening of human suffering, by preventing, alleviating, or curing diseases wherever found, and in whatever class or grade of the human family. Nay, more, with profound reverence I greet you as a noble brotherhood, who in the practical pursuit of that one grand object, recognize no distinction of country, race or creed, but bind up the wounds and assuage the pains of the rich and poor, ruler and ruled, Christian and pagan, friend and foe alike.

Not that every medical man does not love and defend his own country and fireside with as fervid a patriotism as the members of any other class of men. But as disease and pain are limited to no class or country, so is the application of his beneficent art limited only by the number of those suffering within his reach.

With a common object so beneficent in its nature, and opportunities for its practical pursuit so universal, it is but natural that you should be found searching for the most effectual means for the accomplishment of the one object of lessening human suffering, in every field of nature and in every department of human knowledge.

The living human body—the chief object of your solicitude, not only combines in itself the greatest

number of elementary substances and the most numerous organs and varied functions, so attuned to harmonious action as to illustrate the operation of every law of physics, every known force in nature, and every step in the development of living matter from the simple aggregation of protoplasm constituting the germinal cell to the full-grown man, but it is placed in appreciable and important relations with the material objects and immaterial forces existing in the world in which he lives.

Hence a complete study of the living man, in health and disease, involves a thorough study, not only of his structure and functions but more or less of every element and force entering into the earth, the air and the water with which he stands in constant relation.

The Medical Science of to-day, therefore, embraces not only a knowledge of the living man, but also of such facts, principles, and materials gathered from every other department of human knowledge as may increase your resources for preventing or alleviating his suffering and of prolonging his life.

The time has been, when medical studies embraced little else than the fanciful theories and arbitrary dogmas of a few leading minds, each of which became for the time the founder of a sect or so-called school of medicine, with his disciples more or less numerous. But with the development of general and analytical chemistry, of the several departments of Natural Science, of a more practical knowledge of physics, and the adoption of inductive processes of reasoning, the age of theoretical dogmas and of medical sects blindly following some more plausible leader passed away leaving but an *infinitesimal* shadow yet visible on the medical horizon.

So true is this, that in casting our mental vision, to-day, over the broad domain of medicine we see its votaries engaged, some searching for new facts and new materials; some studying new applications and better uses of facts and materials already known; some of them are in the dead house with scalpel and microscope, not only studying the position and relations of every part from the obvious bones and muscles to the smallest leucocyte, in health; but also every deviation caused by morbid action or disease. Some are searching the fields, the forests, the earth and the air, both for more knowledge concerning the causes of disease and for additional remedial agents; some are in laboratories with crucible, test glass and microscope analyzing every morbid product and every remedial agent, separating the active principles from the crude materials and demonstrating their action on living animals, while far the greater number are at the bed-side of the sick and wounded applying the knowledge gained by all other workers to the relief of human suffering. A more active, earnest, ceaseless and beneficent field of labor, is not open to your vision in any other direction or occupied by any other profession or class of men. And thus has the Science of Medicine become a vast aggregation of observed facts, many of them so related to each other as to permit practical deductions of permanent value, while many others remain isolated through incompleteness of investigations, and therefore liable to prompt, hasty or even erroneous conclusions.

Indeed the most defective and embarrassing feature in the Science and Art of Medicine, at this time, is the rapid accumulation of facts furnished by the vast number of individual workers, each pushing investigations in some special direction without concert with his fellows, and without any adequate conception of the coincident lines of observation necessary to enable him to see the true bearing of the facts he evolves. Hence he is constantly mistaking mere coincidences for the relation of cause and effect, and the pages of our medical literature are being filled with hastily formed conclusions and rules of practice from inadequate data.

This results in part, at least, from the extent and variety of the fields of inquiry and the complexity of the problems presented for solution. For nowhere else within the realms of human thought, does the mind encounter problems requiring for their correct solution the consideration of a greater number of data, than in the study of etiology and pathology. To determine the appreciable conditions of the earth, air and water of any country before, during, and after, the invasion of an epidemic disease long enough to include several consecutive visits of the same, is not possible for a single individual, nor for any number of observers acting separately or without concert.

Yet just this complete knowledge is necessary to enable us to separate the conditions that are merely coincident or accidental from those that are such constant accompaniments of the disease as to prove a necessary relation between them. And it is only by such persistent, coincident systematic observations of many individuals, each having a definite part, and the results carefully compared analytically and synthetically at proper intervals, that the real conditions and laws controlling the prevalence and severity of epidemics and endemics can be clearly demonstrated. It is not enough to discover the primary infection, or the *contagium vivum*, whether it be the bacillus of cholera, yellow fever, or tuberculosis, for abundant experience has shown that not one of these will extend its ravages in any community or country unless it finds there is a soil or pabulum congenial for its support and propagation.

It is on the development and diffusion of knowledge concerning the local conditions necessary for receiving and propagating the specific infections of disease that nearly all the important sanitary measures of modern times have been based. And it is on a further development of knowledge in the same direction, gained by more systematic, continuous and coincident investigation, that we shall most successfully protect our race from the pestilences that have hitherto "walked in darkness and wasted at noonday."

It was the extensive and ever extending field of medical science, the complexity of the problems pressing for solution, and still more the individual responsibility of applying the resources at command to the direct treatment of disease, that early disposed medical men to seek each other's counsel, to form groups or clubs for comparison of views and mutual improvement. The manifest advantages of these

soon prompted more extended social gatherings, until at the present time a large proportion of the more active members of the profession in every civilized country are participating in municipal, district, National and International medical organizations.

The aggregate benefit derived from all this active intercourse is beyond easy expression in words. In the more frequent and familiar comparison of cases and views on all professional subjects in the local societies, closer habits of observation and a wider range of thought are induced, while narrow prejudices and bigotry give place to generous rivalry and personal friendships. In the larger gatherings, the formal preparation of papers and reports on a great variety of subjects impels their authors to a wider range of study and greater mental discipline, while the collision with other minds in discussion brings all aspects of the subject to view, enlarging the scope of mental vision, starting new trains of thought, and begetting a broader and stronger mental grasp with purer and nobler aims in life.

I think I am justified in saying that no other one influence operative in human society during the present century has done as much to develop and diffuse medical knowledge, to stimulate its practical and successful application, both in sanitary measures for preventing disease and in the direct alleviation of suffering at the bedside, and in unifying and ennobling the profession itself, as has been accomplished by the aggregate medical society organizations of the world. Yet their capacity for conferring other and perhaps still greater benefits, under proper management, will have become manifest in the near future. And that I may accomplish the chief object of this address, I must ask your indulgence while I indicate some of the more important additional benefits in advancing medical science and saving human live through the instrumentality of our medical society organizations, and the methods by which they may be accomplished.

Every experienced and intelligent practitioner of the healing art is familiar with the fact that all acute general diseases are influenced in their prevalence and severity by seasons of the year, topographical and other conditions of the earth, meteorological conditions of the atmosphere, and the social condition and habits of the people themselves. The most familiar endemics vary annually in the same localities, while the great epidemics that have for ages broken over the comparatively limited boundaries of their habitats only at intervals of years, and extended their ravages from country to country and receded again to the source from which they apparently originated, differ widely in the different periods of their prevalence. But in studying the essential causes of any one of these general diseases and the laws and conditions under which such causes operate, he soon finds certain factors, essential for the solution of his problems, wanting.

For instance, if he wishes to identify the date of the first attack of epidemic cholera in a given locality, and the character of bowel affections immediately preceding, the ordinary statistics of mortality will give him only the date of death, which may have been from one to seven days later, or it may have been preceded by one or more cases that recovered. If he is anxious to determine the reason why the disease, on entering one community, develops with such rapidity that in a few days its victims are found in every grade of the population and in almost every street, while in another it develops slowly, adhering persistently to particular classes or localities, he may find in the ordinary meteorological records the thermometric, barometric and hygrometric conditions of the atmosphere, with the direction and the velocity of the winds, but he finds nothing regarding those important though variable elements known as ozone and hydrogen peroxide, active oxidizers; or those nitrogenous products called free and albuminoid ammonia. Neither do the sanitary records give the desired information concerning the composition and impregnations of the soil, or of the organic and inorganic emanations that may arise therefrom.

An adequate knowledge of these absent factors relating to the condition of the earth, air and water over districts large enough to embrace localities subject to invasions of the epidemics and others known to be exempt, through a sufficient length of time to cover several periods of prevalence and periods of absence alike, is essential for enabling us to comprehend the causes that make one district amenable to the prevalence of a disease and another not, as well as the marked differences in the severity and mode of progress of the same disease at different periods in the same localities and same classes of the people. The same additional knowledge would also furnish the basis for further sanitary measures of the greatest practical value.

And yet it must be obvious that the coöperation of numbers of medical men directly engaged in the field of general practice, with others possessed of more practical facilities for chemical and microscopical research, is necessary for successfully prosecuting such coincident and continuous investigations as would be likely to secure the desired results. Only well trained general practitioners in every locality chosen for observation could observe and record the date of the initial symptoms of acute general diseases coming under their notice, and at stated intervals collate and report them to a central committee. The daily observations concerning the presence and relative proportion of active oxidizers and of nitrogenous organic elements in the atmosphere and the water, would require the selection of one or two experts in chemical and microscopical research for each locality; all making their observations coincidently in time and by uniform methods.

There are included in the organized medical associations of each country the men and materials necessary for prosecuting every well defined line of inquiry; and these associations, by their stated meetings and their facilities for inter-communication and concert of action, present the entire machinery needed and are only waiting for well planned and systematic use.

The tendency to make the permanent medical organizations available for prosecuting work in the directions I have indicated has already been manifested to a limited extent, as may be seen in the for-

mation of the Collective Investigation Committee of the British Medical Association and of the International Collective Investigation Committee, organized during the sitting of the Eighth International Congress at Copenhagen.

An earlier movement more fully of the character I have been endeavoring to explain was made by the American Medical Association in 1875[1] when a standing committee was appointed to establish in a sufficient number of localities regular coincident daily observations and records concerning all appreciable meteorological conditions including organic and inorganic elements found in the atmosphere, and the date of beginning of acute general diseases, and report the results at each annual meeting of the Association.

The Committee made reports embodying facts of interest and permanent value in 1877[2], in 1879[3], in 1881[4], in 1882[5], and in 1883[6]. The latter report contains among other items a complete tabulated statement of the free and albuminoid ammonia in the atmosphere for every day in the year ending Aug. 31, 1883, as determined for the committee by Prof. J. H. Long in connection with the laboratory of the Chicago Medical College. The Committee is still prosecuting its work with material in hand for a still more important report at an early day. The greatest difficulty encountered has been to enlist a sufficient number of active practitioners in each locality who faithfully record the desired clinical facts and report the results to the Committee. But this and all other obstacles can be overcome by persevering and well-directed work.

I trust no apology is needed for having embraced this occasion to attract your attention to the very important question how to make all our Medical Associations more useful in promoting the science of medicine by more complete methods of investigation, especially in directions where the coincident action of several persons in different places, is essential for success.

I fully appreciate the great benefit resulting from the simple mingling of large numbers of medical men in social contact where each is made to hear constantly, whether on the street, in the hotel, or the assembly room, new suggestions, new modes of expression and to observe the physical and mental effects of the various habits and customs of the different peoples, until each one leaves the general gathering with largely increased mental activity and resources as was so happily expressed by Sir James Paget in his address to the Congress of 1881 in London. And I appreciate in a still higher degree the benefits derived from the preparation and reading of papers by individuals and the discussion of important questions in all our assemblies.

But for reasons I have already briefly stated, I hope to see added in every permanent general medical society, two standing committees; one, to whom should be referred for critical examination every communication claiming to embody a new discovery in either the Science or Art of Medicine; and the other should be charged with the work of devising such lines of investigation for developing additional knowledge as require the coöperation of different individuals, and perhaps societies, and of superintending their efficient execution until crowned with success.

If ten or twenty per cent. of the money paid for initiation and membership dues by the members of each society were appropriated and judiciously expended in the prosecution of such systematic and continuous investigations from year to year, it would accomplish more in advancing medical science directly, and indirectly in benefitting the human race, than ten times that amount would accomplish if expended in any other direction.

For it must be remembered that when money is expended for material objects, even for food, clothing or medicine, such materials feed, clothe or relieve but one set of needy individuals and are themselves consumed; but the expenditure of money and time in such a way as to develop a new fact capable of practical application either in preventing, alleviating or curing disease, that *fact* does not like the food or medicine perish with the using, but it becomes literally imperishable. Neither are its benefits limited to one set of individuals, but it is transmitted with the speed of the lightning over the land and under the sea to every civilized people; and whatever benefits it is capable of conferring are as capable of being applied to a million as to one, and of being repeated with increasing efficiency from generation to generation.

It has been tersely and correctly stated that associated action constitutes the characteristic and predominating power of the age in which we live.

It is by associated action that education in its broadest sense, religion, and civilization have been more rapidly diffused among the masses of mankind during the present century, than during any other period of the world's history.

It is by the association of capital, wielded by the associated intellects of the nineteenth century, that highways of commerce have been opened over the valleys, through the mountains, across the deserts, and on the oceans, over some of which the material productions of the nations are borne by the resistless power of steam, and along others the products of mental action are moved with the speed of electric currents, until both time and space are so far nullified that the most distant Nations have become neighbors, and the inhabitants hold daily converse with each other from opposite sides of the globe.

Indeed, it is only by means of such of these highways as have been constructed within the memory of him who addresses you, that you have been gathered in this hall from the four quarters of the earth, and through which an account of your doings may be daily transmitted to your most distant homes.

I congratulate you on the fact that the profession you represent has taken the lead of all other professions or classes of men, in rendering available these

[1] See Trans. American Medical Association, Vol. 26, p. 125.
[2] See Trans. American Medical Association, Vol. 28, p. 153.
[3] See Trans. American Medical Association, Vol. 30, pp. 38-147.
[4] See Trans. American Medical Association, Vol. 32, p. 481.
[5] See Trans. American Medical Association, Vol. 33, p. 43.
[6] See Journal of American Medical Association, Vol. 2, pp. 85 and 169.

grand material achievements of the age, for cultivating fraternal relations, developing and interchanging knowledge, and planning concerted action for rendering human life everywhere healthier, happier, and of longer duration.

This is the ninth grand International Congress in regular series within little more than two decades, and let us hope that all its work will not only be done in harmony and good order, but with such results as will add much to the aggregate of human happiness through all the coming generations.

Without tresspassing further on your patience, I must ask your forbearance with my own imperfect qualifications, and your generous assistance in the discharge of the responsible duties you have devolved upon me.

ORIGINAL ARTICLES.

THE SPECIFIC GRAVITY OF THE URINE, AND ITS RELATIONS TO STRUCTURAL DISEASES OF THE KIDNEYS.

Read before the Chicago Medical Society, September 5, 1887.

BY CHARLES W. PURDY, M.D.,

HONORARY FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS AND SURGEONS, KINGSTON.

The physical characters of the urine have received the most careful consideration by physicians, even in the remotest periods of medical antiquity. They did not escape the keen observation of the great founder of the Coic school; for indeed Hippocrates taught his followers to carefully observe the amount, the color and the clearness of the urine, and the differences in the appearance of the urinary sediment as indications of disease of the urinary organs. We are informed that "he even endeavored to demonstrate the influences of various foods and drinks on the constitution of the urine." Whatever may be said of the conclusions drawn from these observations—and considering the dawning faintness of scientific light in that remote period, surely but little of accuracy could be expected—yet the correctness of the observations themselves by the great father of medicine have scarcely since been questioned; indeed many of them have been handed down to us as indisputable and axiomatic truths.

To Avicenna, the Arabian, belongs the credit, early in the eleventh century, of first having directed attention to the influence exerted by external circumstances over the physical characters of the urine.

Bellini, of Florence in the latter part of the seventeenth century showed by evaporation and subsequent dilution of the urine that the variations in color were due to alterations in the proportions of its contained water and solids. It was about this time that the light of chemistry began to illuminate this heretofore darkened field of research; and then began for the first that true and scientific progress which has resulted in our present greatly perfected knowledge of the physiology, chemistry and microscopy of the urine.

It is however, greatly to be feared that with our greater knowledge of the chemistry and microscopy of the urine, we are coming more and more to rely upon these too exclusively and thus very often to lose sight of the valuable suggestions afforded by a study of the physical characters of the urine.

The object of this paper is to point out the relative value of the knowledge available from observation of the physical characters of the urine in the diagnosis and treatment of diseased conditions of the kidneys, as compared with the chemistry and microscopy of the urine; and I shall for the most part limit what I have to say upon this subject to the consideration of the specific gravity of the urine.

The mere presence of albumin in the urine I believe has been vastly overestimated in value as a symptom of renal disease. Indeed it only assumes its true importance when taken into consideration with other conditions quite as valuable in significance—if not more so—such as the presence of casts in the urine or the specific gravity of the latter. I believe indeed that few people pass through life without at some time, for a longer or shorter period becoming the subjects of albuminuria: and yet the proportion who ultimately become the subjects of organic disease of the kidneys is extremely small. On the other hand as I have previously shown[1] by statistics of 259 cases of chronic Bright's disease—all of them hospital cases in which the diagnosis was verified at the autopsy—that albumin was present in the urine of 68 of the cases only, leaving 191 cases—about 74 per cent.—in which albumin was absent. As a positive or negative symptom, therefore, albuminuria is of value only when taken into consideration with other symptoms, and perhaps none of these are more important than the specific gravity of the urine. I have no hesitation in stating my belief that the specific gravity of the urine, if carefully and intelligently observed, will afford quite as valuable diagnostic evidence of the presence of renal disease as will albuminuria; while in a prognostic point of view it will in *all cases* prove by far the more trustworthy.

Before it is possible to thoroughly comprehend the relations which exist between the specific gravity of the urine and diseased conditions of the kidneys, it shall first be necessary to become familiar with the normal standard of specific gravity of the urine, as well as the variations to which it is subject when the kidneys are free from disease. In discussing these points I shall make use of two terms, viz., *the apparent specific gravity of the urine*, and *the real specific gravity of the urine.* By the term "apparent specific gravity of the urine" I shall in all cases mean the specific gravity of the urine as it is when passed, without reference to the daily quantity of urine excreted. By the term "real specific gravity of the urine" I shall always mean the specific gravity of the whole 24 hours' product, corrected relatively upon the basis of 50 ounces.

We shall see that there are numerous conditions and influences compatible with perfect health which vastly change the apparent specific gravity of the

[1] Pre-Albuminuric Stage of Bright's Disease. Chicago Med. Jour. and Examiner, May, 1885.

urine and therefore in order to avoid being mislead by such influences we must take the relative specific gravity compared with the normal volume of the 24 hours product, for such alone can give us information of a trustworthy character. Moreover, the specific gravity of the urine must always be taken from a part of the *whole 24 hours' product* in order to furnish information of any definite value; because the urine is subject to almost hourly variations in quantity and in specific gravity, and it is only at the end of 24 hours that the cycle of changes becomes completed, and then we may get the sum or product of the whole. Furthermore, if we desire to obtain very accurate results, these observations must be extended over weeks.

Assuming the condition to be that of adult health the average individual should excrete 50 ounces of urine of specific gravity at 1020. If the specific gravity varies materially from this standard, it will be found to be due to one or more of the following conditions: The quantity of urine may be considerably increased or decreased from various causes, and this causes a variation in the apparent, though not in the real specific gravity of the urine. The quantity of the urine may become increased from augmented blood presence, as from the use of large quantities of aqueous drinks; the moderate use of alcoholic drinks, which abstract the water from the tissues and overfills the vessels; from cold which contracts the cutaneous vessels and overfills the visceral circulation; from diuretics, more especially those that act upon the heart, as digitalis. The quantity of urine may become decreased in health: from habitual use of small quantities of fluids; when the skin and lungs are over active as in hot weather; and from diminished general or local blood-pressure. The changes in the specific gravity of the urine due to alterations in the quantity are of an inverse degree to the increase or decrease in the volume of urine secreted. The change in the specific gravity of the urine, then, is merely the result of the alteration in the proportions of the solid and aqueous elements of the urine, and therefore it is apparent and not real, as gauged by the normal product of 50 ounces.

If we take 10 ounces of urine of a normal specific gravity (1020) and evaporate it down to 5 ounces it will then be found that the specific gravity will be doubled (1040). If now 5 ounces of distilled water be added the normal specific gravity, 1020, will be restored. Again, if 10 ounces of distilled water be added to the 10 ounces of urine, the specific gravity of which is 1020, the 20 ounces product will give a specific gravity of 1010. Thus we may go on diluting or concentrating at will, and the specific gravity will constantly maintain an exact inverse ratio to the aqueous increase or decrease. The solids of the urine are unchanged, as may be proved by entire evaporation of the aqueous urine; the solid residue being subsequently dissolved in the original volume of water lost by evaporation will give the original specific gravity, 1020.

Now precisely the same relations obtain in the secretion of urine by healthy kidneys under the varying conditions just named. The quantity of solids remains practically unchanged; while the quantity of fluid (water) is subject to the variations brought about by increased or decreased blood-pressure. Since these alterations in blood-pressure are usually transient, and always variable, so these variations in the specific gravity of the urine are never permanent, but oscillate above and below the normal standard. In diseased conditions of the kidneys, however, the changes both in the quantity and the specific gravity of the urine are permanent; and, moreover, as a rule to which there are very few exceptions, the relations of these alterations is not inverse but direct.

We have next to consider the conditions which give rise to variations of the specific gravity of the urine secreted by healthy kidneys which are not dependent upon alterations in the quantity of the urine.

Food.—The character and quality of food directly influences the amount of solids of the urine, and thus cause variations in the specific gravity of the latter. The meals augment the solids and increase the specific gravity of the urine, and hence, *ceteris paribus*, the specific gravity of the urine is higher after food than at other times of the day. The habitual overindulgence of the appetite tends to induce a permanent increase in the specific gravity of the urine. Foods rich in nitrogen, such as lean meats, furnish a relatively large amount of waste which it is the function of the kidneys to eliminate; and therefore overindulgence in such foods favors a rise in the specific gravity of the urine. On the other hand, spare eaters, more especially of meats, usually secrete a urine of somewhat lowered specific gravity.

Exercise hastens tissue changes, and furnishes an increased amount of solid urinary excreta. We may therefore expect increased specific gravity of the urine in those undergoing active muscular exercise, and the contrary during periods of muscular quietude.

The specific gravity of the urine furnishes us data from which we can calculate the amount of solids discharged by the kidneys. Several rules have been laid down for this: (*a*). If the last two figures of the specific gravity of the urine be multiplied by 2—the coefficient of Trapp—or by 2.33, the coefficient of Haeser—the product will approximately represent the number of grains of solid urine in each 1000 c.c. (38 fl. ℥). (*b*). A still more simple rule mentioned by Oliver[1] is to multiply the last two figures of the specific gravity by the number of ounces of urine, and the product will approximately represent in grains the solid urine discharged in 24 hours.

The amount of solids excreted by the kidneys furnishes us with a true gauge of the functional capacity or adequacy of the kidneys, which in health varies but slightly from the normal standard, save under the conditions already considered. In disease of the kidneys, however, we have a most marked variation in the solid urine, and consequently in the specific gravity of the latter.

This brings us to the consideration of the more practical part of our subject, viz., the influence of diseased conditions of the kidneys on the specific gravity of the urine. For general guidance I would lay down the following general rules:

[1] Bedside Urine Testing, 3d edition. London.

1. That all structural diseases of the kidneys cause a decrease in the quantity of solids excreted with the urine.

2. That if measured by the normal quantity of the urine (50 ounces) the specific gravity of the urine is decreased by all structural diseases of the kidneys.

3. That the decrease, both of the solids and specific gravity of the urine, bears a direct relationship to the extent of each and every lesion of the kidneys.

Bearing in mind the foregoing rules we shall be able to comprehend now the value of the information devisable from the specific gravity of the urine. It often gives us more trustworthy information than does the presence, or the quantity, of albumin in the urine as to the existence or otherwise of a given renal lesion; and always so of its extent, its weekly progress, its probable chronicity, or otherwise, and finally its progress towards death or recovery.

The relations between the specific gravity of the urine and each of the more common organic diseases of the kidneys will now be briefly considered individually.

Acute Diffused Nephritis in all its forms—scarlatinal, puerperal, toxic, including exanthemic, metastic, as that arising from cold applied to the skin, burns, and extensive cutaneous lesions, all these are accompanied by the excretion of urine much reduced in solids. The apparent specific gravity in these cases is high; because the reduction in the fluid urine is much greater than in the solids. The apparent specific gravity of the urine in these cases may reach as high as 1035 to 1040. The average daily quantity of the urine in acute stages of diffuse nephritis is 300 to 400 c.c. Now, if we take a sample of urine in a case of acute diffuse nephritis reaching the highest specific gravity, 1040, and if we restore the deficiency of the water—which we have just indicated to be on an average three-fourths—we will get a fluid of the specific gravity of 1010, which represents the highest *real* specific gravity of the urine in these cases. The high specific gravity of the urine in these cases is therefore only apparently so, and is merely the result of concentration of the urine. If ordinary urine of normal specific gravity be evaporated down to the same volume (three-fourths), the specific gravity of the urine reduced by evaporation would be much higher than is ever observed in acute diffuse nephritis. The doctrine commonly taught that the specific gravity of the urine is actually increased in these conditions is likely to mislead the student, because such a statement carries with it the presumption that the solids excreted by the kidneys are also increased; whereas, as a matter of fact, they are greatly decreased, and this decrease is one of the chief sources of danger to life from uræmia. The urine then in cases of acute diffuse nephritis while apparently of higher specific gravity than normal, is yet actually, as measured by the normal volume of urine, much below the normal standard; and if the deficiency in the fluid urine be made up, the specific gravity will in every instance be found to be both apparently and actually below the normal.

If improvement occur in these cases the apparent specific gravity of the urine becomes decreased, but the actual specific gravity, as gauged by the normal volume of urine, becomes increased. This is due to the fact that with improvement in the renal inflammation comes an increase in the quantity of the fluid urine, which lowers the apparent specific gravity of the urine. But improvement in the renal inflammation also permits an increased excretion of solids by the kidneys, and consequently a rise in the real specific gravity as measured by the normal volume of urine. If improvement continue the disproportion between the apparent and real specific gravity of the urine diminishes, and when they no longer vary, but coincide, the healthy state of the kidneys is restored.

If we restore the aqueous deficiency of the urine in these cases, and observe the actual specific gravity of the urine from day to day, it will furnish us with evidence of the most positive nature as to the extent and intensity of the renal inflammation, as well as of the progress of the disease towards recovery or otherwise; and surely such information is in every way worthy of the trifling pains necessary for its acquirement.

Chronic Diffuse Nephritis is accompanied by a decrease in the specific gravity of the urine, and this decrease is both apparent and real. The normal volume of the urine is little if any reduced; indeed, in the late stages it is considerably increased. If the case be an outgrowth from acute nephritis the reduction of the specific gravity is marked from an early period, because the acute disease has left the kidneys extensively damaged, almost from the beginning. Taking, for example, one such case from my notes, I find recorded in May and June, 1884, five months after the acute attack, that the specific gravity of the urine averaged 1012–1014. The case has been under my constant observation and treatment since, and during the last two months, June and July, 1887, the specific gravity of the urine has averaged 1010. It will be noted that the reduction in the specific gravity of the urine has only been two or three degrees in three years; too trifling, it may be thought by some, to afford any practical information. On the contrary, it teaches me the most substantial and important information of the progress of my case. It indicates to me that, by means of diet and medication, I have retarded the advance of extensively involved kidneys for three years, and moreover postponed renal contraction, as is doubly attested by the absence of cardiac changes and by the fact that the average volume of the urine remains but little if any above normal.

In those cases of chronic nephritis, on the other hand, which begin insidiously and independent of acute attacks, the specific gravity of the urine at first is but little below the normal, either apparently or actually. Gauged by the normal volume of urine, it is usually not lower than 1017 to 1019.

If the specific gravity of the urine be noted from time to time in these cases, it will furnish pretty substantial information as to the progress and extent of the disease. From month to month, or at least from year to year, if the progress of the disease continues

unchecked, the specific gravity of the urine will become more and more reduced. Finally, in the last stages of the disease, from whatever cause it arises, the specific gravity of the urine becomes very much reduced. Contraction of the kidney begins, and with this cardio-vascular changes usually occur and result in increasing the volume of urine above normal. It is not uncommon for the specific gravity of the urine under such circumstances to range as low as 1006 to 1008. I am, indeed, led to believe that contracted kidneys resulting from chronic diffused nephritis furnish urine of considerably lower specific gravity than do the granular contracted kidneys, or the so-called kidneys of interstitial nephritis. In the former case the lesions are more diffuse, and involve more of the secretory structure of the organs; while in granular contracted kidneys the changes begin in circumscribed areas of the organs, and rarely become general.

Cirrhosis of the Kidneys, or primary granular atrophy, results in excretion of urine both apparently and really below normal in specific gravity. The decrease is not marked at first; indeed, it is stated in some cases to be slightly above normal. I believe that in such cases the patients are large meat consumers, for upon ordinary diet I have always found the urine at least from one to three or four points below normal in the early stages of the disease. As is well known, this disease is very tardy in its progress under ordinary circumstances, and therefore it may be several years before the specific gravity falls very markedly. In the middle stages of the disease, with commencing cardiac changes, I have observed the usual range to be 1014–1016. In the late stages of the disease the specific gravity of the urine usually descends to 1010 or thereabout, and I believe the patient rarely survives long if the specific gravity of the urine continues below that point.

The lowered specific gravity of the urine in these cases is a diagnostic point of great importance, and it has more than once saved me from error in diagnosticating. Indeed, while preparing this paper, a lady from the interior of the State consulted me as to the condition of her kidneys. The urine was absolutely free from albumin, as proved by repeated trials with the most delicate tests. No casts were found by usual methods of examination. The specific gravity of the urine was constantly below normal, ranging from 1013 to 1015, and this fact more than any other made me suspicious, and more thorough investigation was determined upon. A large quantity of urine was secured and charged with resorcin to prevent change, and this was set aside in a conical glass *for three days* in order to insure the settling to the bottom of any casts that might be present. In the sediment from this there was no difficulty in finding hyaline and finely granular casts in every slide examined. The sphygmograph showed very marked tension in the arterial system; the patient rises at night to urinate pretty regularly, and there has been a dyspepsia and diarrhœa of late which I have no doubt are mild uræmic symptoms. Now, without the continued low specific gravity of the urine observed over a number of days under varying conditions, I should hesitate to pronounce the case one of renal cirrhosis, but such it undoubtedly is.

It is doubly important that the specific gravity of the whole 24 hours' product of urine be taken in the disease under consideration, because it will usually be found that the specific gravity of the urine in these cases is higher during the day than at night. This depends in part at least upon the fact that in most of these cases much the larger part of the urine is secreted at night; a circumstance I am unable to account for satisfactorily, unless it be, as the late Dr. McBride, of New York, assured me from his personal observation, that the vascular tension is higher at night than in the daytime.

Amyloid Degeneration of the Kidneys causes the excretion of urine both apparently and actually below normal in specific gravity. As a rule the quantity of urine is somewhat increased, and in some cases it is considerably so. This, however, varies in different cases, but in all, if the specific gravity be gauged by the normal quantity of urine, it will be found more or less below the normal standard.

The specific gravity of the urine in amyloid disease of the kidneys furnishes very important information as to the extent and progress of the disease; and moreover, it affords valuable prognostic data. Perhaps I cannot better illustrate this point than by citing two cases from my notebook. The cases were very similar in all respects, save that one of them was much farther advanced than the other. They each came under my observation about the same time—case 136 on April 13, 1886, and case 142 on May 7, 1886. They were each the result of syphilis. Case 136 was farther advanced, and over two years before coming under my charge was treated for a greatly enlarged liver and spleen (undoubtedly amyloid). The specific gravity of the urine when he came under my observation was 1012, and the quantity of albumin in the urine was 30 per cent. volumetric measure. In the other case, 142, the specific gravity was 1019. The quantity of albumin in the urine was 40 per cent. volumetric measure, and there was slight dropsy of the legs below the knees. Now it is important to note that, if we were to be guided by the albuminuria, we should conclude that in case 142 the disease was the more extensive and serious; but the specific gravity of the urine pointed to a more recent and less extensive invasion of the kidneys in case 142 than in case 136, and so the subsequent history proved.

The cases were the more similar in the facts that in each the patients could not take large doses of iodides, and they were therefore treated precisely alike, for the most part by small doses of potassium iodide combined with ammonium muriate. Now while each of these cases has steadily improved, and probably will ultimately recover, case 142 has made the more rapid improvement, and is, indeed, now on the verge of recovery; while case 136 is not so far improved as to make it altogether certain of the ultimate result. My last notes of case 136 show a specific gravity of urine ranging from 1014 to 1016, while the quantity of albumin ranges from 10 to 16

per cent. volumetric measure. My last notes of case 142, taken about the same time, show the specific gravity of the urine to range from 1019 to 1020, and a range of albumin of from 4 to 6 per cent. volumetric measure. It seems to me from a comparison of these two cases, that nothing could be more conclusive as to the value of the knowledge elicited by observation of the specific gravity of the urine in such cases. It here corrected the false impression likely to arise from superficial examination, namely, that in case 142, with a higher grade of albuminuria, and the presence of dropsy (which was absent in 136), the case was the more serious; and it pointed out unerringly that it was the less extensive, less advanced, and more amenable to treatment.

In the late stages of amyloid degeneration of the kidneys, the specific gravity of the urine ranges very low, perhaps lower than in any other renal lesion. Usually it is below 1010, and I have in one case observed it as low as 1004. The quantity of urine is more or less augmented in this stage of the disease, so that the real specific gravity of the urine is somewhat higher than the apparent specific gravity.

Cyanotic Induration, or venous congestion of the kidneys, causes the secretion of urine of apparent specific gravity higher than normal—1025 to 1035. The volume of urine excreted in 24 hours, however, is considerably below the normal. If the specific gravity be gauged by the volume of urine secreted, the former will be found to fall slightly below normal. The anatomical changes in the kidney in this condition are never very marked—never sufficiently so to cause death—and therefore the reduction in the specific gravity of the urine is never so marked as in most other organic diseases of the kidneys.

Suppuration of the kidneys, from whatever cause, tubercular, septic, or mestatic, causes the secretion of urine of low specific gravity both apparent and real. For the most part this reduction is marked almost from the beginning, ranging as low as 1012 to 1010. A knowledge of this fact throws valuable diagnostic light upon the probable extension or otherwise of pyelitis. Thus, in a given case of pyelitis if the specific gravity of the urine remain about normal the case is probably uncomplicated so far as the kidneys are concerned. On the other hand, if the specific gravity of the urine be decidedly reduced say to 1010 it indicates that the kidneys share in the suppurative process. The quantity of pus in the urine affords no trustworthy information of a diagnostic character in these cases; for it may be comparatively small in quantity when the kidney is involved; or it may be large in quantity when the suppuration is confined to the renal pelvis. Moreover, with regard to renal casts; we cannot always rely on their absence as furnishing trustworthy evidence that the kidneys are uninvolved, because the urine is often alkaline in pyelitis, and casts are rarely if ever found in alkaline urine, the reasons of which I have some time since pointed out.[3] It will therefore be perceived that the specific gravity of the urine renders most valuable information in these cases.

It would be exceedingly interesting and profitable to pursue this subject beyond the limits prescribed by the heading of this paper; to inquire into the variations of the solid urine, and consequently of the specific gravity of the latter in the various morbid conditions of the system generally, such as anæmia cachexia, syphilis, and fevers; as well as outside local diseases, as those of the liver, stomach, lungs, and inflammations. Each of these, as is well known, causes a decided variation in the solids and specific gravity of the urine, and indeed these must be taken into consideration when present if the condition of the kidneys is in question. But such inquiries would lead us into that vast complex of chemico-regressive changes in the system at large, including the physiology of metabolism, a subject altogether too extensive for the necessary limits of this paper, and moreover quite beyond its scope. Before closing, however, it may not be improper to briefly consider the subject of so-called *functional albuminuria* and its relations to the specific gravity of the urine.

If the doctrine which I have sought to elucidate in this paper be correct, namely, that only those conditions of the kidneys attended by actual anatomical change result in reducing the specific gravity of the urine, then it would naturally enough be expected that in functional albuminuria, in which the kidneys are not essentially damaged, the specific gravity of the urine should not become reduced below the normal standard. So true, indeed, have I found this sequence of events in practice that I have adopted it as an axiom. I have therefore come to regard the following as a safe rule for guidance, viz.: that if the actual specific gravity of the urine be not reduced in a given case of albuminuria, the case is one of functional albuminuria.

Perhaps I can not better illustrate the strength of my confidence in the diagnostic value of this rule than by the statement that in doubtful cases, if the specific gravity of the urine remain constantly at or above normal over any extended length of time, I should not hesitate to diagnosticate the absence of renal disease, even were albumin constantly present in the urine. It might indeed be true that the constant presence of albumin in the urine, betokend changes in the circulation of the kidneys which ultimately might result in permanent organic change in those organs. But whether such be the true condition, or that the kidneys be already organically damaged, the mere presence of albumin in the urine would not reliably indicate. It is here precisely that the value of the specific gravity of the urine as a diagnostic indication appears; for when not below the normal standard it indicates that the organs are excreting the normal amount of solids, which diseased kidneys are incapable of doing for any continuous length of time.

The specific gravity of the urine then in functional albuminuria is never below the normal standard; moreover, according to my observations in many of these cases it marks considerable rise above it, reaching 1022 to 1030. This latter fact has raised

[3] Bright's Disease and Allied Affections of the Kidney, pp. 104 and 219.

many interesting questions in my mind, which I can at present only mention, notwithstanding their probable deep importance.

1. What is the interpretation of this apparent increased functional activity of the kidneys in functional albuminuria?

2. Does the cause lie in the kidney itself, or is it the expression of some change of function in a remote organ; or is it the result of changes in the normal metabolism of the blood?

3. What are the relations of this increased specific gravity of the urine to functional albuminuria?

We may perhaps assume that the cause of the increased specific gravity of the urine, and perhaps of the albuminuria itself, are external to the kidneys; since, as has been shown, disease of those organs invariably results in reducing the specific gravity of the urine. May not regressive changes in the economy furnish not only an excess of solids to be eliminated by the kidneys, but also in the splitting up of organic compounds result in the formation of a proteid so altered as to permit its escape through the renal filter, while yet not sufficiently altered to change its properties of responding to our ordinary tests for albumin?

There are a number of circumstances favoring such a view. Our lack of knowledge of the chemistry of proteids or albumins; together with the well-known facts that they are capable of very great changes in the line just suggested, favor this view. It is well known, for instance, that when albumin has taken certain regressive steps in organic metamorphosis, it is at once eliminated by the kidneys, as is observed in peptonuria and propeptonuria. Now, may not less marked changes in proteids—say an intermediate step between albumin and peptone—result in the formation of a proteid which answers to all the properties suggested? It seems to me that such is quite possible, if indeed not probable.

In a very valuable article on "Functional Albuminuria and its Relation to Hæmoglobinuria" Dr. Ralfe,[4] of London, has made some suggestions on the close relationship between accelerated metabolism of the blood—"increased hæmolyses"— and functional albuminuria.

As is now known, the red corpuscles of the blood are broken down in the liver. The hæmoglobin is converted into pigment and urea in health. The albuminous element of the blood corpuscles is converted in the liver into urea ordinarily; but if the destruction be abnormally great Dr. Ralfe believes that "a large portion of the albumin passes off by the kidneys." Increased hæmolysis would undoubtedly account for the rise in the specific gravity of the urine in these cases, for with increased hæmolysis we have increase of urea, and the latter constitutes about one-half of the solid urine.

Now to the various laws formulated in this paper I am aware of but one exception, and that occurs in cases of chronic Bright's disease combined with diabetes mellitus. The occurrence of such a combination is, I believe, much more common than is generally supposed. It is true that we are accustomed to find in chronic diabetes small quantities of albumin in the urine, and this is usually attributed to the irritation in the kidneys induced by the excretion of sugar. The number of cases of diabetes, however, which have come under my observation accompanied by slight albuminuria and which have subsequently proved to be conjoined with chronic Bright's disease have induced me to adopt the following rule: In every case of diabetes accompanied by slight albuminuria, if the patient's age be over forty years, search carefully for evidences of contracting kidney. The investigation will present points of unusual difficulty, since the increased volume of urine greatly lessens the chances of discovering renal casts—which are indeed always sparse and difficult to find in this disease. The vascular tension is markedly increased in diabetics, which takes away another differential diagnostic prop in such cases; and lastly, as already indicated, the specific gravity of the urine is much above normal. It will therefore be observed that the investigation must be most thorough in these cases.

The normal urinary solids, as we have seen, are always reduced in chronic Bright's disease, and therefore ordinarily the specific gravity of the urine falls below normal. The excretion of sugar, however, often to the extent of 25 to 40 grains in each ounce of urine in diabetics, more than counterbalances the deficiency in solids induced by interstitial nephritis; and therefore the specific gravity of the urine must necessarily rise considerable above the normal standard when the two diseases occur in conjunction. It will not answer, therefore, always to attribute the slight albuminuria in diabetes to simple renal irritation, or consequences the most grave and disastrous, which might otherwise be averted, will sometimes overtake these cases.

163 State street.

[4] British Med. Jour. Nov. 27, 1886.

SUDDEN DEATH IN LABOR AND CHILDBED.

Read before the Section on Obstetrics and Gynecology, at the Thirty-eighth Annual Meeting of the American Medical Association, June, 1887.

BY FAYETTE DUNLAP, M.D.,

OF DANVILLE, KY.

On January 14, 1887, I was summoned to attend a lady, aged 24 years, in her first confinement. I had been engaged some months before, and by reference to my visiting book I find that she was expected to be confined on January 27. The note summoning me stated that there had been a slight hæmorrhage from the vagina for several hours, and that a premature delivery was imminent. An examination proved that labor had begun, and the os was dilated to an extent to admit the index finger. There were no distinct contractions, but the os was slowly dilating, and very satisfactorily. The hæmorrhage continued constantly but scantily. I ordered a warm vaginal douche, left the house and returned after four hours. There had been some progress made, the parts were splendidly lubricated, the pains coming on periodically and increasing in force—in a few words, the labor was progressing naturally.

I retired in an adjoining room at 10 P.M. with instructions to be called at 2 A.M. At this hour my patient was sleepless, suffering acutely, and the expulsive efforts very feeble, whereupon I gave hypodermatically ⅙ gr. morphia and $\frac{1}{150}$ gr. atropia. She slept quietly for a short time, and by 7 A.M. the contractions began in earnest. From the beginning of labor the suffering was acute, yet the woman showed no evidence of exhaustion and was very hopeful of a satisfactory issue out of her confinement. I gave 30 gr. of chloral *per rectum*, as the rim of the os was very sharp and unyielding and the parts becoming dry. I could not perceive that it had the least effect locally or constitutionally, and repeated the hot water douche at 11 A.M.

At 1 P.M. the delivery was completed and the woman seemingly in unusually good condition, considering the number of hours she had been the victim of acute suffering. At no time was there the slightest despondency or evidence that her nervous system was influenced by it. The perineum relaxed well, and there was no more than the customary amount of laceration for first labors. The placenta was expelled without traction or great amount of compression, and it is absolutely certain that there was no bleeding of consequence. I gave my patient my undivided attention for twenty minutes or more, and save a pulse-beat of about 100 and very great prostration there were no unfavorable symptoms. She had not moved from her position and was breathing tranquilly.

I was preparing to leave the room when she asked me to return, as she felt as if about to faint. I instantly thrust my hand into the vagina, expecting hæmorrhage, but found the womb firmly contracted and plainly to be outlined above the pubes. Dyspnœa, nausea and a turbulent tossing about in bed began. The second sound of the heart was lost, and the organ in a flutter and not to be counted. I grasped the shoulders and lowered the head almost to the floor, and in a few seconds consciousness returned, and with it an improved tone of the heart-beat. I replaced her quietly in bed, and gave 1 ounce of brandy and had the body warmed. At this juncture I despatched a messenger for a consultant, and in a few minutes Dr. McMurtry arrived. As the heart's action was feeble and the countenance livid, I gave every few minutes brandy hypodermatically for an hour.

The tone of the heart's beat would improve and remain strong a few moments at a time, and would then gradually fade away and syncope would again follow. The dyspnœa continued, the cyanosis was alarming, and the surface was shrunken and freely perspiring. Precisely four hours after the first syncopic seizure the woman suddenly lifted herself in bed, uttered a faint scream and fell back dead. Her mind was clear up to the moment of death.

In prefacing my remarks upon this case it may be well to state that is my custom to make an analysis of the urine of my pregnant patients, usually about one month before confinement. As there was considerable œdema of the ankles, I examined the urine three times microscopically and chemically. She was a strong, robust, hopeful person, and had a remarkably fine family history.

This sad tragedy, the first one that I had witnessed, made a deep impression upon me, and I repaired at once to all the obstetric literature at my command for some explanation of this unexpected occurrence. The very meagre amount to be found in even the most popular and practical works was a matter of surprise. Leishman gives about one-fourth of a page, and simply says that very rarely a patient suddenly dies in childbed from some unknown cause, such as shock, heart-failure or exhaustion. Playfair gives something more; Cazeaux and Ramsbotham and Parvin nothing at all. It remains for Lusk, who had an experience similar to my own just prior to giving his work to the press, to give especial attention to this subject. A few weeks ago I reported this case to the Medical Society of my village, and nearly every practitioner had had one or more lying-in women suddenly die with the assemblage of symptoms above related. A calamity of this kind, if taking place only once on an average in the professional life of every general practitioner, deserves more attention than has been given to it.

This, and a like experience to be related hereafter, brought the matter prominently forward in my studies. In prefacing his remarks upon the class of cases to which this history belongs Winckel says: "He who has once seen a puerperal woman happy and joyous in the expectation of soon leaving her couch, then directly afterwards has found her a corpse, will be able to comprehend the truth of Hervieux's words: 'In the twinkling of an eye all the calculations of prudence are set at naught; the most untiring vigilance, the best established rules of hygiene, all the varied resources and ingenious combinations of therapeutics, are shattered against an invisible rock;' " then adds with a tone of despondency: "The only thing which remains for the physician after such a depressing occurrence is to seek out the cause of the sudden death."

In this search it is my purpose to pass over consideration of rupture of the uterus, apoplexy, the snapping asunder of an aneurism and post-partum hæmorrhage, and following the example of Lusk, confine myself to entrance of air into the lungs, shock, exhaustion and embolism.

The surgeons have taught us that the entrance of air into the venous circulation is fraught with danger. This accident is most likely to occur in opening the veins of the neck, the act of inspiration encouraging the entrance of a volume of air into the open venous mouths. The sudden emptying of the womb produces a like result, and it is plainly to be understood how air can find its way into the open veins of the placental site. This is particularly true in cases in which the labor has been unduly prolonged and the uterus left in a relaxed condition. It has frequently happened that sudden death has occurred before delivery was accomplished, this being due to the fact that a partial separation of the placenta has left the venous sinuses standing widely open. The plan of inducing premature delivery recommended by Kiwisch, then, is particularly perilous.

I can recall the particular features of a case in my practice which seems to illustrate the dangers from this source: I placed my patient in the Sims' position, introduced his speculum in order to remove a four months' fœtus that was firmly held by the rim of the os uteri. I grasped the mass with the placental forceps and easily dislodged it. After removing the secundines with the forceps I introduced the nozzle of a Davidson's syringe and forced in a stream of water to clear the womb of clots and débris generally. Pure, very warm water only was used. The os seemed sufficiently relaxed to allow an unobstructed return of the water thrown in. While this was in progress the woman began to breathe heavily, spoke in a whisper, and became cyanotic. She felt as if a heavy weight was bearing her down. The effort to breathe was violent, and she breathed more rapidly than I thought it possible for an adult to do. The heart was beating tumultuously, but strong enough. I used brandy freely hypodermatically, and even ventured upon giving 20 drops of liq. ammon. in one syringeful. After lying a few minutes in a relaxed and semi-unconscious state she slowly revived and made a prompt recovery. Sir James Paget tells us that it is possible for a considerable amount of air to enter the circulation, and if it is properly disposed through the lungs it will be speedily absorbed and do no damage. I have always believed that the sudden and firm contraction of the uterus caught above the internal os a volume of air that had been forced in by the syringe, and it found its readiest exit by way of the venous sinuses. My father, who was holding the speculum, remarked that the symptoms presented an exact counterpart to those in a man dying on the operating table from the entrance of air while undergoing an operation for exsection of a portion of rib.

Lusk quotes an interesting case reported by Kezmansky, of Budapest. The patient was 36 years of age, and in labor for the fourth time. An excessive amount of fluid was recognized. The patient entered the hospital at 10 A.M. At 3 P.M. she lay upon her left side, and the bag of waters protruding from the vulva. Spontaneous rupture occurred and a gallon of water escaped. Five minutes later the patient suddenly threw back her head, gasped a few times for air, the face became livid, and respiration was arrested. In scarcely two minutes Dr. Liebman was at her side, but the pulse was extinct. The forceps were applied and an asphyxiated child was delivered. The heart was feebly beating, and the woman died before delivery was completed. At the post-mortem examination, twenty hours after, pale reddish-brown blood, mingled with bubbles of air, was found in the uterine veins, vena cava, lungs, and especially in the pulmonary artery. In the vena cava, columns of blood and air alternated. Kesmansky makes the following statement in his report: "The patient lay upon her left side with her knees drawn up in nearly the Sims' position, with the vulva elevated above the concavity of the abdomen. As the membranes ruptured there was a sudden diminution of the intra-abdominal pressure, so that the air entered through the open vulva between the collapsed membranes and the uterus. The ensuing retraction of the uterus forced the head to the os externum, and caused the placental separation. The next contraction caused the uterine air to escape by the only channel that was possible, viz.: by the open mouths of the placental veins."

In the *St. George's Hospital Reports*, vol. vi, Cordment reports two cases. From the position of the patients at the time of delivery it was an easy matter for air to gain admission. Post-mortem examination demonstrated that the larger veins in both the abdominal and thoracic viscera had bubbles of air in them, and in the right side of the heart. The brain was anæmic and contained frothy serum. In addition to these symptoms was the extreme pallor of the surface, feeble pulse, jerky and rapid respiration and speedy collapse.

It is thus demonstrated that Kiwisch's plan of inducing premature labor by the forced stream of water; that to admit a sudden volume of air into the womb while the sinuses are open; to allow the woman to be delivered in the standing position; to deliver her in the knee-chest position, as suggested by Ludwig under certain contingencies, are dangerous in the extreme. In my case I can never be certain that air in the veins was the cause of the alarming condition, but I shall always believe so. The sudden onset of the symptoms, their sudden disappearance and the favorable position of the patient, are the only evidences I have to offer to sustain my belief.

I now turn to a consideration of shock or exhaustion as a cause of sudden death in childbed. The phenomena of surgical shock are typically illustrated in the case reported at the beginning of this paper, and are almost exactly reproduced in a case within the last month. I was hastily called in consultation by Dr. McMurtry, who had an hour previously delivered his patient of her seventh child. She was 42 years of age, very robust and an illustration of perfect health. By overtaxing her strength in household duties labor was induced two or three hours in advance of maturity. Labor came on rather precipitately, but aside from this, it was completed without an untoward symptom. She informed her attendant that in her last confinement the hæmorrhage was alarmingly profuse. Immediately after the expulsion of the fœtus, and before the placenta had been detached, Dr. McMurtry noticed the pallor of countenance and the complete relaxation of the whole muscular system. The heart was beating rapidly; could not be counted, and the second sound was obliterated. The patient lay quietly, breathed easily, and presented a typical picture of surgical shock. A noticeable feature was the very marked improvement at times of the tone of the circulation, and its sudden recession within a few seconds' time. There were no convulsions, no loss of blood, and the only complaint was that of præcordial distress. Dyspnœa came on gradually, and in exactly five hours from delivery she quietly passed away. This was an almost exact reproduction of my first experience, and differed only in this, that in the first patient restlessness and great distress were prominent, and in the second they were not present at all.

In the absence of any demonstrable evidence of

the presence of air in the veins or of embolism, we must attribute death to that mysterious complexus of symptoms we include in the general term of *shock*. Pathological investigation refers the phenomena of shock to a reflex paralysis of the vaso-motor or splanchnic nerves, whereby the mass of the blood recedes from the surface and collects in the thoracic or abdominal viscera. Through this same influence the heart is enfeebled, and soon overworked by its ineffectual efforts at ridding itself of its constantly increasing burden, and finally yields to the pressure and ceases to contract. The condition is favorable to coagulation, and doubtless this often occurs.

In addition to the pains and exhaustion of childbirth, mental emotions have no small part in the production of a state of the nervous system favorable to shock. The patient had been for a year brooding over a domestic tragedy, and made frequent visits to the State Prison to see her son, who was undergoing a sentence for murder. She was greatly humiliated, lost sleep, and was ready at all times to give way to the most wretched despondency. How great a part this circumstance had in bringing about the calamity we are unable to say. Lusk tells us that the homesick prisoner of war and the conquered soldier who is left on the field of battle yield with readiness to shock and perish from the most trivial wounds. We cannot ignore these facts, and must give prominent place in our classification to that at present unexplainable something we call shock.

Unless the case reported at the beginning as an introduction was one of embolism, I have never encountered the accident in my midwifery practice. As an autopsy was denied, the diagnosis is made solely upon the symptoms above detailed, and moreover, I cannot find a single report of an embolus having been discovered in an autopsy of a patient dying during or immediately after delivery.

It has been assumed for a number of years that the blood is in a favorable state for coagulation during pregnancy. This theory has been strongly maintained by Barker, Playfair, Meigs and others, and in clinical experience many striking facts have arisen to support this belief. Dr. Mary Putnam Jacobi reported a case similar to my first one to the New York Pathological Society, and exhibited the heart containing the clots, which she maintained were post-mortem.

In all the cases reported the feeble circulation was always the first symptom to cause alarm, and, if coagulation takes place it is the result of this enfeebled circulation, and not its cause. The fact remains that numbers of puerperæ die and with symptoms as detailed above in these three cases. While there is great similarity in them, yet they are widely apart in many important particulars.

Now, it is not sound pathology to ignore these facts and to banish as unworthy of consideration a well established pathological condition, simply because in the days of ignorance the terms exhaustion and shock were indiscriminately employed to explain a multitude of cases which, with our present enlightenment, we know are due to the entrance of air into the circulation, and to pulmonary embolism. As the nervous organization of woman loses in powers of resistance as the penalty of a higher civilization and of artificial refinement, it becomes imperatively necessary for the physician to guard her from the dangers of excessive and too prolonged suffering. I have always urged the principle and have carried it out in practice, that the exquisite torture to which many women are subjected is unnecessary. The impression made upon a sensitive organization by prolonged and constantly increasing pain can and does result in damage to the central nervous system.

In a measure, then, we can diminish the liability to danger from shock and exhaustion by timely and judicious interference, to danger from entrance of air into the circulation by the position of the patient, the means employed in assisting uterine dilatation, but in the prevention of clot formation, in the light of our present pathological knowledge, we are powerless, and in the presence of either of these conditions we must stand helplessly by and say with Winckel, that the only thing remaining for the physician to do is to seek out the cause of death.

DISCUSSION.

Dr. I. N. Rosenthal, of Fort Wayne, Ind.: Sudden deaths after parturition are fortunately very seldom, but they are nevertheless very terrible, and I hope to be excused if I report a case in full. A multipara was taken sick and confined about 8 P.M., and about 3 A.M. I was called by the attending physician. The lady was in a perfect frenzy of anxiety because the attending physician had stated to the parties that there was something wrong. I found a second fœtus in shoulder presentation, with no worse symptoms than would naturally be expected in a case of malposition or where labor was not normal. I turned the child without trouble, and after delivery the lady seemed to be perfectly happy and satisfied, and expressed feelings of gratitude and comfort. Within a half hour the attending physician and myself noticed the pulse becoming less, the lady felt as if she was fainting, but there were no other symptoms; the uterus was perfectly contracted, and no sign of hæmorrhage. The pulse continued to become weaker, and in less than half an hour the woman collapsed and death took place. What was the cause of death if it was not thrombosis or embolism? It certainly was not shock, there was no sign of sufficient shock for at least half an hour after delivery.

Dr. W. W. Grant, of Davenport, Iowa: There is one point of much interest in connection with this case which I do not think ought to be passed by unnoticed, and that is, whether we are as helpless as the author of the paper would indicate. It seems to me that in these cases of accidental hæmorrhage due to separation of the placenta, as distinguished from placenta prævia, it is just one of those slight hæmorrhages that come on previous to delivery. The hæmorrhage in this case was probably the cause of premature death, and is a very interesting point. These cases are not so uncommon, and it is a question whether we cannot do something to arrest that condition. I have recently had such a case, and have treated other cases, and I think something can be done to avert the embolism, whether it is from

air or blood, and that is the administration of ergot, even before labor in this case; I have done it systematically, have given ergot not in large enough doses to produce labor, but enough to produce a gentle, firm contraction of the uterus. I gave it recently for three weeks, 25 drops Squibbs' extract of ergot. That contraction is worth something even after delivery.

DR. W. H. WATHEN, of Louisville, Ky.: I was certainly very much interested in this excellent paper read by Dr. Dunlap. I was specially interested because I have had a misfortune somewhat similar recently, in which a lady was sent to me from a distance who had become illegitimately pregnant. She came of a very good family, was very much depressed, and in fact had no desire to live. She passed through her delivery, and in the second stage of labor the uterus contracted down and the placenta was removed without difficulty, and it contracted again. In about five minutes hæmorrhage began and the uterus relaxed. I introduced my hand very quickly and grasped the uterine cavity and the hæmorrhage ceased. The woman lost probably eight or ten ounces of blood. A hypodermic injection of ergot was given immediately. We had no warm water, nothing but a solution of chloride of iron, one part iron to ten warm water. The hæmorrhage immediately ceased, the uterus contracted down firmly, and remained contracted. The woman did not bleed any more, her pulse was perfectly good, her respiration normal, no disturbance of any sort whatever. In probably half an hour after this I felt the pulse and it was getting rapid; it had been 70 to 80, then 90, then it went up to 100; finally she was gasping for air, could not breathe, the pulse 110, and it finally disappeared altogether. I gave hypodermic injections of whiskey, but she gradually grew worse, rallied again with external heat, grew worse, and in an hour died, remaining conscious until probably ten minutes before death. This is a case in which it is difficult to understand the cause of death. It certainly was not from shock; there was no apparent shock during labor or immediately after, and no apparent shock after hæmorrhage had ceased. I could not account for it by air in the blood-vessels, because if air had got in it would have been when the injection was used, and symptoms would have been manifested immediately. I accounted for it by pulmonary clot, embolism, where probably the clot from the uterus was by some means taken up through the vena cava to the heart and then to the lungs. If it was not a pulmonary embolism I am unable to account for it.

WOUND DRESSING: SOME NOTIONS ACCEPTED AND SOME UNDER DISCUSSION.

Read in the Section on Surgery and Anatomy, at the Thirty-Eighth Annual Meeting of the Am Medical. Association.

BY GEORGE E. STUBBS, A.M., M.D.,

PROFESSOR OF SURGICAL PATHOLOGY IN THE MEDICO-CHIRURGICAL COLLEGE, AND SURGEON TO THE CHARITY AND THE MEDICO-CHIRURGICAL HOSPITALS, OF PHILADELPHIA.

In presenting a few thoughts upon the subject of wound dressing, I do not feel that I need to apologize on account of the triteness of the subject, since every surgeon of experience has ideas peculiar to himself on this practical subject, which should be cast in the common fund of information, to add if possible to the heritage of knowledge, which we have jointly received from the honored surgeons of the past. I must, however, disclaim the idea of offering any notions that are very original, though I hope that from an experience of some twenty-five years of military and civil surgery that I may present some ideas which may interest for a few moments, if they do not edify.

But even if one cannot always present new and original ideas, as the result of patient, methodical research, it is often of great advantage both to the reporter and the profession to whom he reports, for the physician to take time to put himself upon a point of observation, and take a general view of ground gone over and of prospects ahead. In doing this, I am impressed at once with the rapidity of professional unification. Where less than a generation ago surgeons in each country were a law unto themselves in the matter of surgical tenets, now, so closely do electricity and steam unite the World that the surgeons of every land are our brethren, and if Horsley of England removes a tumor from the brain, and his diagnosis and prognosis are both thereby verified, we clap him on the shoulder, in spirit at least, and hail him as our brother; if Billroth boldly takes the risk and operates for cancer of the pylorus, we fraternally admire his courage and zeal, and resolve to emulate his example as occasion demands; and when Keith presents his latest and best statistics in ovariotomy, we are ready to cry "bravo!"

With this diversion from my subject, let me now remark, *firstly*, that our ideas upon the subject of wound dressing are constantly changing, I find, on referring to many works of standard excellence in surgery, which grace my library, including the three immense tomes of the "Surgical History of the Rebellion," that many of the terms now constantly in use in our surgical literature, our surgical clinics and the surgical wards of our hospitals, and likewise in every meeting and discussion of well read medical men, are not even mentioned; indeed, such is the rate of progress, especially in the line of bacteriology, that surgical works published but five or ten years ago are now considerably behind the times.

Most of the principles, however, of such works are still as true as ever, so far as experience has yet proven, just as we may still assert, that many of the principles handed down to us from Hippocrates, such as the application of bandages, and, in all severe wounds, rest, a strict regimen, and an easy position for the limb, the rejection of oil and all moist applications except poultices in certain cases.

If I take up a certain standard work on surgery, I find under the general heading of wounds, the indications given thus:

1st. "The arrest of hæmorrhage," which probably all surgeons now would agree to at once, although Hippocrates believed in letting the blood flow copiously when situated upon the limbs or penetrating the cavities of the body.

2nd. The removal of foreign bodies; and then comes

3d. The apposition of divided parts, for which the surgery of to-day would substitute *antiseptic washing of the parts*, putting the injunction mentioned as the *fourth* in order of sequence; and then comes the general wise injunction: "The use of such measures as will coöperate with Nature to the fullest extent in the repair of the damage."

This last phrase is so long headed in its foresight as to include all the bacteriological and other improvements, that all the Kochs, Pasteurs, Sternbergs and Cheynes are likely to invent in the next thousand years and is therefore admirable.

But although all the surgeons as a rule believe in arresting all hæmorrhage before closing the wound, yet one point in regard to the blood is under discussion now, namely, is it best to leave a wound under a moist blood clot? From a careful review in the May number of *The Annals of Surgery* of Dr. M. Schede's (Hamburg) article in the *Archiv. fur. klin. chir.*, 1886, Bd. 24, Hef., by Dr. Browning, of Brooklyn, I learn that Dr. Schede has summed up 241 such operations, including, *e. g.*, 40 joint resections, 18 excavations of tubercular foci in bone with free opening into relatively healthy joints, 30 total removals of small cheesy bones, 29 necrotomies, 20 Phelps' operations, 24 extirpations of tumor sacs, etc. His procedure is the customary one as far as constriction, careful antisepsis with the one to one-thousandth bichloride of mercury solution, and complete removal of all diseased tissue. It differs from the customary method in leaving one or two openings above instead of below in order to *collect* any oozing blood, and making a Neuber's button-hole where the conditions demand. The skin was approximated regardless of apposition of deeper parts: In some cases, as in Phelps' operation, the wound was not closed. No drainage was used but an imperforated silk covering, which should extend several centimetres beyond the wound edges. This must fit the skin nicely, and serves the double purpose of insuring the filling of the wound, then also prevents any sucking up of the wound clots. No other imperforate layer but gauzes, cotton, moss, sacks, and as perfect rest as possible. Under such treatment, prompt coagulation, fibrination and cicatrization takes place. The blood under such conditions fills in all angles and cavities. Small bone cavities heal in from twelve to fourteen days; larger ones in three to six weeks. He avoids putting foreign matter in wounds but uses catgut on occasion. To keep the bones in place, he uses hard rubber splints, softened by boiling water to fit the part, and loosens the constriction for a time before bandaging, and ligates bleeding vessels. He expects a good result, and accordingly does not remove a dressing though soaked in blood, if it dries. If the soaking persists, he opens. No constitutional disturbances occur except occasionally an aseptic fever for two or three days.

It is said that the results were notably good. The method has not been applied to operations on the hip-joint nor on the soft parts of the body, except in tenotomies and deep lacerations with retraction. Complete antisepsis is a necessity; where this seems questionable he fills the cavity with antiseptic material as gauze or bismuth, and waiting for granulations, these may then be slightly scraped, and the resulting flow of blood be utilized according to the principles already enunciated.

Imperfect results arise from (1) flow of blood being insufficient to fill wound. This is to be avoided by care at first. (2) From fungus breaking down of the cicatrix. (3) From any septic infection. Foreign substances or sequestra naturally lead to a resulting fistula. It is said that the use of antiseptic powders is not permissible in this method as the carbolic acid would likely be less satisfactory than the bichloride.

We are accustomed to consider the union by what has been called first and second intention as two different and distinct physiological processes, but according to Zeigler these healing processes "are in principle the same" the difference being only in quantity.

From time immemorial good surgeons have been accustomed to make use of the principle of specific gravity for the drainage of wounds, where possible, even using the knife boldly to that end. For years drainage tubes of metal, gum or other material such as horse hair, chicken bones, or strings have been used to conduct pus out of deep cavities, in either case the appliances being made antiseptic. Again sponges or iodoform gauze bags with antiseptic material for absorption purposes within, have been lowered or packed into cavities, and removed with the infiltrated fluids at short intervals.

We have long appreciated the importance of correct hygienic surroundings such as pure air and water, good and easily digested food, clean rooms and bedding, and great cleanliness as to all dressings, and at this time still, many surgeons boldly assert that *cleanliness in all things* gives them, quite as good results, as are obtained by the most thorough antiseptic surgeons. This is then one of the notions now under discussion. Probably the large majority of the profession believe in antiseptic surgery, not Listerism *in extenso*, but careful antisepsis. Yet there are those who assert that at this era in surgery, so well proved is the value of antiseptic surgery, that a surgeon should be held liable at law for damages, if, in the practice of surgery where he had failed to use antisepsis his patient was not healed.

This is the bacteriological epoch in medicine, and never did surgery comprise so large a portion of the whole as now. Where once our science had but the extreme injuries of the body for its field, now it halts at but few points, and perhaps I would be more accurate if I said that it halts at none.

In the matter of wound dressing, the important discoveries in regard to the effect of bacteria are constantly increasing, and what at first and only a few years ago, was largely empirical practice, has now, almost, if not quite, reached the dignity and accuracy of a science. Ogston has shown that all pus contains bacteria, that the more abundant the pus, the more bacteria are found. The most valuable researches of Sternberg and others have show

us what agents are most effective in exterminating germs, but some of these while most effectual in killing germs, are deadly when used internally, and somewhat dangerous even in their external use. We find a great diversity of views among different surgeons in different countries, and likewise among those of our own. Some rely upon the bichloride solution of from 1:20,000 to 1:1000; others use carbolic acid solution, while many, as in Germany, pin their faith upon iodoform. Others still use the one or the other for different purposes. The opinion of surgeons, has not definitely crystalized as yet but I think it is fast doing so. So rapidly are discoveries made, however, in this golden era of surgery, that we cannot forecast at all what even our immediate future may bring forth, but judging from the progress being made in this decennium, we have a right to expect great things.

MEDICAL PROGRESS.

DIAGNOSIS OF SARCOMA OF THE BREAST.—In an article on "Sarcoma of the Female Breast," DR. S. W. GROSS says:

Between the spindle-celled, round-celled, and giant-celled there are marked similarities which render their differentiation difficult. The spindle-celled, however, are characterized by their development at a comparatively early age; by the attendant suffering; by the enlargement of the subcutaneous veins; by their slow reproduction after removal; and by their long life. The round-celled, on the other hand, appear, as a rule, at a comparatively late age, and are painless; but the skin is liable to be discolored and ulcerated, and recurrence is rapid, and the duration of life is relatively short. The giant-celled likewise appear late in life, but are painful; discoloration of the skin and ulceration are also common; but there is no enlargement of the veins, while irritative enlargement of the axillary glands is frequent. Local reproduction is delayed longer than in the other varieties, and the duration of life is remarkable. These points are set forth in the following table, in which the affinities and contrasts of the three principal varieties may be seen at a glance:

	Spindle-celled.	Round-celled.	Giant-celled.
Average age of appearan e.....	36 years.	48 years.	47 years.
Appear before the 16th year....	12.08 per ct.	0 83 per ct.	0 per ct.
Pain.....	60.00 "	10.81 "	43 "
Skin discolored.....	20.88 "	32.35 "	25 "
Ulceration.....	17.58 "	23.58 "	25 "
Veins enlarged.....	17 58 "	11.76 "	0 "
Glands swollen.....	6.59 "	8.82 "	37.5 "
Glands infected.....	0. "	2.91 "	0. "
Adjacent tissues invaded.....	13.18 "	17.64 "	25 "
Local reproduction.....	65.10 "	60 "	57 14 "
" " average date of	12 months.	4⅔ months.	12⅔ mos.
Metastatic deposits.....	20.40 per ct.	25 per ct.	0 per ct
Average life with operation.....	90 months.	54 months.	108 mos.

Between the solid and cystic varieties there are certain distinctions, which are useful in establishing a different diagnosis. The former develop at about the forty-third year; the skin is discolored in 11.53 per cent; ulceration occurs in 7.69 per cent.; the veins are dilated in 7.69 per cent.; there is no discharge from the nipple, nor is it retracted; pain is met with in 28 per cent.; the surrounding tissues are invaded by tumor elements in 11.54 per cent.; the lymphatic glands are enlarged in 11.54 per cent., and infected in 1.28 per cent.; recurrence ensues in 64.58 per cent.; and metastatic growths are met with in 25 per cent. of all instances. Cystic sarcoma starts, as a rule, at the thirty-eighth year, and is not, as is asserted by many writers, most common between twenty and thirty-five years, as just as many cases occur after as before the latter age; it grows more rapidly than the solid variety, and its increase is often sudden after having remained stationary or advanced slowly for some time. Now and then, after evacuation of the fluid of the superficial cysts, their solid contents can be detected by manipulation; their consistence is, as a rule, unequal, and they are more largely lobulated than the former variety. The skin is discolored in 34.61 per cent.; the tumor ulcerates in 18.76 per cent.; the veins are enlarged in 23.07 per cent.; the nipple is retracted in 6.41 per cent., and discharges fluid in 10.25 per cent.; pain is experienced in 41.93 per cent.; the adjacent tissues are infected in 16.66 per cent.; the lymphatic glands are swollen in 5.12 per cent., but they are never invaded by tumor elements; while it recurs in 51.16 per cent., and becomes generalized in 11.62 per cent. of all cases.

There are no signs by which cystic sarcomata can be absolutely differentiated from cystic fibromata, with which they are so frequently confounded. The latter develop earlier in life, and a discharge from the nipple is more common than in the former; but ulceration and enlargement of the veins are only one-half as frequent, and they are not attended with glandular enlargement or malignant features. It should, however, be stated that the largest proliferous cystic tumors met with in old, married multiparæ are generally sarcomata.—*American Journal Medical Sciences*, July, 1887.

USE OF THYMOL.—DR. FREDERICK P. HENRY, of Philadelphia, says: Following the suggestion of Martini, in the *Annali Universali di Medicina e Chirurgia* for February, 1887, I have recently prescribed thymol in a number of cases of intestinal diseases, catarrhs, acute and chronic, and typhoid fever, with the result of convincing me that it is a valuable adjuvant to our treatment of such affections. I do not attach any particular significance to the fact that all the cases of typhoid fever, ten in number, to which I have thus far administered the drug, recovered; but my conviction that the course of the disease was most favorably modified by the treatment was shared by the resident physicians, by practitioners who visited the hospital for the purpose of seeing the cases, and last, and perhaps not least, by experienced nurses.

The benign course pursued by these cases was especially evident when contrasted with that of an equal number treated without thymol during the first half of my hospital term. The favorable effect of the drug was evinced by a steady descent of the temperature, by a gradual diminution in the daily number of stools, by the absence of mental excitement, and,

most conspicuously, by the clean, moist tongue presented in every instance. One case caused some anxiety for a few days after his admission, on account of the presence of decided tympany and general abdominal tenderness, but these ominous signs gradually disappeared.

I have also administered thymol, with good results, to several cases of intestinal catarrh, of which one is worthy of some detailed account: Mary S., æt. thirty-six, married, was admitted to the Episcopal Hospital on May 14, 1887. She was pale, thin, and anæmic. Seven years ago, after removing to Philadelphia from the country, she had an attack of "diarrhœa" (dysentery?) with from fifteen to twenty stools a day, in spite of treatment. Defecation was painful, with marked tenesmus, and the dejecta were thin and streaked with bloody mucus. Gradually the number of passages were reduced to from five to six per diem, and, for nearly seven years, notwithstanding treatment by several physicians, this has been the daily average. Soon after admission she was given thymol gr. x., ter in die, and the next day the number of stools was reduced to three. A week later, she had a well-formed stool every second day, and expressed herself as feeling better than at any time during the past seven years. On July 1, when my term of service expired, she was well, so far as the diarrhœa was concerned, but was still somewhat anæmic.

The medicinal use of thymol is based upon its well-known antiseptic properties, and its action in the cases under consideration was favored by its great insolubility, which enables it to reach the intestine, mingle with its contents, and neutralize the toxic ptomaines that are formed in great quantity in catarrhs of the gastro-intestinal tract. In the opinion of many authorities, it is to the absorption of large quantities of these toxic products of fermentation and putrefaction that the so-called typhoid symptoms are largely due. These opinions do not rest solely upon theory, for it is found that, during the administration of thymol, phenol, which is one of the most constant products of intestinal putrefaction, and is almost entirely eliminated with the urine, is no longer found in that excretion.

I have always prescribed the thymol in pill, of which the best excipient is medicinal soap, and, so far, have not given more than thirty grains in twenty-four hours—two two and a half grain pills every six hours. This is a small dose, but I have seen no reason to increase it. This may be done, however, with perfect safety, and, perhaps, with still better results. It has been administered, with brilliant results, by Bozzolo, in cases of anchylostomiasis, in doses of from ten to twelve grams (two and a half to three drachms) per diem.

The only case in which I found the drug to produce any unpleasant effect—slight digestive disturbance—was that of a woman with advanced phthisis, chronic diarrhœa, and who was, besides, the host of a tapeworm. Thymol has been found to be an excellent tænifuge by several Italian observers, and it was for this purpose that I prescribed it in the case last mentioned. The woman had voided no fragments of the worm for two weeks, and it was a question whether the parasite had been entirely expelled. Although but a few doses of the thymol were tolerated, they were quickly followed by the expulsion of several fragments of the worm.

Martini, whose experience with thymol has been large, has only found it give rise to unpleasant symptoms—delirium and stupor—in one case, that of a girl, æt. 14, to whom 30 grains had been given in the course of two hours; the symptoms were transient, the treatment was resumed, and the case, one of typhoid fever, recovered without further mishap.

Dr. D. J. Milton Miller has continued the use of thymol in the medical wards of the Episcopal Hospital since he took charge of them on July 1, and writes as follows: "Generally speaking, my success with thymol, in typhoid fever, has been most satisfactory. The cases do seem to run a more favorable course than usual, as shown by lower temperature-range, less diarrhœa, the absence of complications, and even a shorter duration of fever."—*Medical News*, Sept. 3, 1887.

Eugenol as an Antiseptic.—According to Geo. H. Ochse, Ph.G., eugenol, the principal component of oil of cloves, is found also in *Myrtus pimenta (Pimenta officinalis*, Lindley), *Amomis acris*, Berg *(Myria acris*, DeCandolle), *Canella alba*, Murray, *Dicypellium caryophyllatum*, Nees, and in *Ravensara aromatica*, Sonnerat. Eugenol, a phenol-like compound, is insoluble in glycerin and water, and is obtained as a residue when oil of cloves is subjected to distillation with strong caustic alkalies. After the so-called light oil of cloves is distilled off, sulphuric acid or phosphoric acid is added, and by continuing the distillation without access of air eugenol is obtained. Eugenol is an oily, colorless liquid, possessing the odor and taste of the oil of cloves to the highest degree. In contact with air and light it soon aquires a brown color; it boils at 247.5° C., and has a specific gravity of 1.078 at 0° and 1.063 at 18.5° C. Like phenol, which it resembles very much, it has no acid reaction, does not contain the group COOH, and also forms crystallizable compounds with alkalies. When heated with hydriodic acid it evolves methyl-iodide, and when fused with potassium hydrate it forms protocatechuic acid; with baryta and tin-dust it forms about ten per cent. methyl-eugenol. When taken internally the greater part of it is eliminated by the urine, in which, however, it cannot be detected by its odor not by distillation, but if allowed to decompose, the characteristic odor is at once perceptible, and when extracted with alcohol shows the characteristic deep-green coloration with ferric chloride. Eugenol has been given in doses of three grams per day dissolved in alcohol and diluted in water. As an antiseptic, it is superior to phenol; as a febrifuge, it is not as efficacious as quinine, salicylic acid, antipyrin, or thaline. —*American Journal of Pharmacy*, March, 1887.

Cæsarean Section performed successfully on a Cow.—Dr. C. Hamilton, of Ringgold, Ga., writes: On the 20th day of April I was called some dis-

tance in the country to see a patient. On my arrival I was asked by a gentleman of the house to come out to the lot as soon as I had made a prescription for his daughter, whom I had visited. In the lot I found a cow in labor, and had been for about twenty-four hours. On examination I found that, owing to an injury that she had received on the railroad, there was not sufficient passage for the calf. Its fore feet were protruding, and there was no room for the passage of its head. The gentleman insisted on saving the life of the calf; so I concluded to perform the Cæsarean section, though I had never heard of this operation having been performed on a cow; so, without the use of any anæsthetic, I immediately began the operation by making an incision a little to the right of the median line, commencing just at the edge of the mammary gland, and cutting up made an incision six or seven inches long, and the cut in the uterus as small as would admit the calf. As the membranes had not ruptured, I waited a few minutes and then proceeded to rupture them and deliver the calf. In a few minutes it was up, walking about. I used a catgut suture in closing the cut in the uterus. A few minutes after the cuts were closed the cow got up and let the calf suck. There was very little swelling or suppuration during the healing of the wound. The lochial discharge commenced at once and continued its usual time. I directed that she should be fed on meal and bran for fifteen or twenty days. I learn that she has been giving sufficient milk for the calf all the time, and at this date is doing well, running in the range with other cattle. It is strange to say that the protrusion of the membranes and the contraction of the uterus at the cut was just the same as at the mouth, showing very plainly that the contractility of the uterus is in every part and direction; while the uterus was cut laterally, the contraction was great and the pains as regular as during natural labor. The cow struggled but little during the operation, and what little she did seemed to assist in delivery.—*Southern Medical Record*, July, 1887.

STRUCTURE OF THE UTERINE ARTERY.—The phenomena of sexual life in woman necessarily involve frequent variations in the blood-supply to the uterus and ovaries. Professor Thoma has already noted the development of connective tissue in the tunica intima of arteries in relation to the mechanical conditions of the circulation. Dr. Westphalen, of Dorpat, has recently examined the uterine artery in order to see how the intima is arranged in that vessel. He discovered that in childhood the intima consists of endothelium and of an elastic membrane which forms folds like a ruff when the vessel is empty. Between these layers he found in places some elastic and muscular fibres, but very little connective tissue. At the height of sexual life, however, a very distinct and thick layer of this tissue could be detected in the intima. It increased in thickness as the vessel neared the uterus, and was most marked in women who were not very young and who had borne children. Similar histological conditions were detected hy Dr. Westphalen in the intima of the ovarian artery, but in a much less marked degree. This disposition of the connective tissue in the intima must depend upon the physiological peculiarities of the part which is supplied by the uterine artery. A similar histological condition has been already noted in the splenic artery, a vessel which is also distributed to an organ subject to periods of physiological engorgement. Dr. Westphalen's researches appear in the form of a short note in the 106th volume of Virchow's *Archiv*, pt. ii.—*British Medical Jonrnal*, August 20, 1887.

BONE PEG IN OPERATION FOR PSEUDARTHROSIS.—At a recent meeting of the Paris Société de Chirurgie, a report of which appears in the *Deutsche Medizinal-Zeitung*, M. RICHELOT related the case of an hysterical girl, sixteen years old, with a congenital atrophy of the face, for which resection of a portion of the lower jaw was performed. The fragments were united with silver wire, but the patient was restless, and the union which took place was by fibrous tissue. Dr. Routier subsequently drilled a hole through the fragments, excised the callus, and pegged the two parts of the bone together with a portion of the tibia of a calf, which had been steeped for twenty-four hours in a solution of 1 part of corrosive sublimate in a mixture of 900 parts of distilled water and 100 of alcohol. Bony union followed, with only a slight asymmetry, and the patient could eat better than before. No disturbances of the dental nerves were observed.—*The New York Medical Journal*, August 27, 1887.

INTRAPERITONEAL HÆMORRHAGE; REOPENING OF THE ABDOMEN.—MR. HENRY W. FREEMAN, reports the case in which the bleeding came from a rent in the pampiniform plexus of the broad ligament, between the uterus and the stump of the clamped pedicle. The rent was probably due to traction on the tumor in lifting it out of the pelvis before the pedicle was clamped. No bleeding occurred when the pedicle was drawn upwards, owing to mechanical closure of the rent by the traction thereby exercised on the broad ligament. He directs special attention to the fact that he was enabled to establish his diagnosis of secondary hæmorrhage (and thus save the patient's life) by means of the glass drainage tube which he had fixed between Douglas' pouch and the lower angle of the abdominal incision.—*Lancet*, June 4, 1887.

TREATMENT OF DUPUYTREN'S CONTRACTION OF THE PALMAR FASCIA.—KOCHER advises excision of the fibrous constricting tissue. This should be done through a single longitudinal incision, and in old cases where the cutis has become so intimately adherent to the underlying fibrous bands, a piece of the former should be excised. To attempt to excise under these conditions only the contracting tissues would leave the overlying skin too thin, and thus the wound would heal by granulation, rather than by primary union, which is essential. Gersuny has also practiced this operation with very good results.—*Centralbl. f. Chirurgie*, No. 27, 1887.

THE
Journal of the American Medical Association.
PUBLISHED WEEKLY.

THE EDITOR OF THIS JOURNAL would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the writer's full name and address, although not necessarily to be published. All communications in regard to editorial work should be addressed to the Editor.

SUBSCRIPTION PRICE, INCLUDING POSTAGE.

PER ANNUM, IN ADVANCE.....$5.00
SINGLE COPIES.....10 CENTS.

Subscriptions may begin at any time. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made at the risk of the publishers, by forwarding in REGISTERED letters.

Address
JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No. 65 RANDOLPH STREET,
CHICAGO, ILLINOIS.

SATURDAY, SEPTEMBER 10, 1887.

THE CONGRESS IN WASHINGTON.

By the time this issue of THE JOURNAL reaches its readers the work of the Ninth International Congress will be concluded. The dispatches from Washington state that the prospects are good in all respects for the Congress.

On Monday at 11 A.M., DR. HENRY H. SMITH, Chairman of the Executive Committee, called to order a large assemblage in Albaugh's Opera House, and after reviewing the history of the manner in which the Congress came to meet in America, introduced HON. GROVER CLEVELAND, President of the United States, who said:

"I feel that the country should be congratulated to-day upon the presence at our Capital of so many of our own citizens and those representing foreign countries, who have distinguished themselves in the science of medicine and are devoted to its further progress. My duty on this occasion is a very pleasing and a very brief one. It is simply to declare that the Ninth International Medical Congress is now open for organization and for the transaction of business."

The Chairman of the Executive Committee then nominated the gentlemen agreed upon by the Committee to be officers of the Congress. "For the high office of President of the Congress," he said, "the Committee unanimously nominate to you one widely known as a scientific practitioner, an able teacher, and medical author, Dr. Nathan Smith Davis, of Chicago." Dr. Davis having been elected by acclamation, he was escorted to the Chair by Dr. Francesca Durante, of Italy, and Deputy Surgeon General Jeffrey A. Marston, of her Britannic Majesty's Army. The other officers were then elected as nominated, the Secretary General, DR. JOHN B. HAMILTON, Supervising Surgeon General of the U. S. Marine Hospital Service read his report, and DR. A. Y. P. GARNETT, Chairman of the Local Committee of Arrangements, announced the social programme for the Congress.

The President of the Congress then introduced HON. THOMAS F. BAYARD, Secretary of State, who said:

We welcome this Congress as guardians of the sanitation of the Nation. In your profession we recognize the noblest school of human usefulness, and in the progress of the department of the development of the law of cure, the mitigation of suffering, the prolongation of human existence, and the efforts to discover the true principles by which life can be made "worth living." We have learned to appreciate our debt to those whose highest reward is the "still small voice of gratitude and consciousness of benefaction to the human race. Gentlemen, I confidently promise your convention a worthy audience, not alone the members of your profession here assembled, nor the limited number whom this building can contain, but that vaster audience, to whom upon the wings of electrical force, your message will be daily borne far and wide to the listening ears of more than sixty millions of American citizens. Sure am I that your message will be worthy, and equally that your thoughtful deliverances will be welcomed by a Continent. The closer relations of mankind, which modern invention have induced, have necessarily been accompanied by an increased dissemination of disease, and the need is obvious of frequent international conferences, that, in the grand sweep of scientific observation, new discoveries in the healing art may be promptly attested and applied in counteraction. Forgive me if as one of the great army of patients I humbly petition the profession that in your deliberations Nature may be allowed a hearing when remedies are proposed; that her vis medicatrix may not be omitted in computing the forces of cure, and that science may be restricted as often as possible to sounding the alarm for nature to hasten, as she surely will if permitted, to the defense of the point assailed. My duty is very simple, and I fear I have already overstepped its limit, for there was indeed little more for me to say than to repeat the words of an ancient whose cottage was close by the battle-field of Waterloo, and, being somewhat deaf, and hearing the sound of the artillery when the famous "pounding" was hardest, thought she heard someone knocking at her door and simply said "Come in." This may seem an unscientific illustration of auscultation and percussion, but you need not make half the noise of Wellington or Bonaparte, and I can assure you the American people will hear you and heartily say to you, as I do for them, "Come in."

The welcome was acknowledged and responded to briefly by Dr. William Harris Lloyd, Inspector General of the Royal Navy, in behalf of Great Britain; Dr. Léon Le Fort, of Paris, on behalf of France; Prof. P. G. Unna, of Hamburg, on the part of Germany; Senator M. Semmola, of Naples, for Italy, and Sir Charles Reyher, of St. Petersburg, representing the Government of Russia. Dr.

Unna spoke in German, and Drs. Semmola and Le Fort in French.

The President of the Congress then delivered his Inaugural Address, which is published in another department of this issue of THE JOURNAL. The number of members registered on Wednesday night was about 2,800. The largest number registered at a previous Congress was 3,182, in London, in 1881. But at the London Congress 1,145 resident physicians were registered, while in Washington there are scarcely 400. But not alone in numbers is this Ninth International Congress a success: A glance at the programme of the Sections will show that as regards scientific value and interest it is second to no one of the preceeding Congresses.

SARCOMA OF THE FEMALE BREAST.

In an exceedingly valuable paper in the July number of the *American Journal of the Medical Sciences* DR. SAMUEL W. GROSS, of Philadelphia, presents a study of 156 cases of sarcoma of the female breast, which will be all the more interesting to those familiar with the chapter on sarcoma in his work on "Tumors of the Mammary Gland;" in which is made the best existing attempt to determine the relations between the minute features and the clinical characters of sarcoma of the breast. As already said, the cases studied in this paper number 156, including 19 of the author's cases.

Of the varieties of sarcoma, says the author, the spindle-celled, which include the fibrous, constitute 68 per cent., the round-celled 27 per cent., and the giant-celled 5 per cent. of all cases. Of the subdivisions 50 per cent. are cystic, including the barren and proliferous cysts; 50 per cent. are solid or monocystic; 33 per cent. are adenoid, the glandular structures persisting principally in the spindle-celled growths; 12.80 per cent. are myxomatous, the combination being almost peculiar to the spindle-celled and cystic tumors; 7.69 per cent. are telangiectatic and hæmorrhagic; 7 per cent. are cystoid, or the seat of softening cysts; 2.56 per cent. are osteoid; 2.56 per cent. are calcifying; 1.21 per cent. are cartilaginous; 1.92 per cent. are alveolar; 1.21 per cent. are lymphoid; and 1.21 per cent. are melanotic or pigmented.

Circumscribed sarcomata, like other encapsuled neoplasms of the mamma, are ovoid, rounded or spherical, lobulated or bossed, seldom smooth and uniform; the surface irregularities are most marked in the cystic variety. They are not, as a rule, attached to the gland, but push it aside, compress and flatten it, or cause atrophy of the gland. The pure spindle-celled and giant-celled tumors are firm, like fibromata, while the round-celled are soft and elastic; but in about one-third of all cases the spindle-celled are soft, in which cases they are composed of small fusiform cells, or have undergone myxomatous or fatty transformation, or are the seat of interstitial hæmorrhage. In about one-sixth of all cases the round-celled are hard, when they are usually rich in fibrous intercellular substance; they are therefore not synonymous with soft, medullary, or encephaloid sarcomata, though they are generally softer than the spindle-celled sarcomata on account of their structure. As important points in the diagnosis between the small adenoid spindle-celled growths (adenoid sarcomata of Billroth) and fibromata of the same size, it may be mentioned that of the five specimens of the former which Dr. Gross has extirpated all were lobulated, firm, elastic, adherent to the gland, grayish-white in color, and tough on section; while the fibromata are hard, merely nodular, less adherent to the mamma, white, and more compact and tough on section.

It is infrequent that mammary sarcomata inflame and suppurate, but ulceration of the superjacent tissues occurred in 18.59 per cent. of the cases collected—more than double as large a proportion as in fibroma. As with fibromata, the ulceration seems to be the result of inflammation and gangrene, or merely rupture of the attenuated skin, rather than of infiltration by sarcomatous cells; but in one case it was due to exploratory puncture. In 10 per cent. of the cases the ulcer is in the form of a sloughing patch. While fungous protrusion almost always follows perforation of the skin, in one case the ulcer healed. The fungous protrusion, usually an intra-cystic growth, varies from one-half up to 5 inches in diameter, exhales a sanguinolent and fetid discharge, which may become more or less purulent; the protrusion is not very prone to free hæmorrhage or sloughing. The ulcer is usually circular, and the surrounding skin is generally not only free from coloration, but it is not attached to the fungus, and is everted, or rather elevated, on its sides. Sometimes there are several ulcers, separated by bridges of sound tissue. Ulceration occurred in 7.69 per cent. of solid sarcomata, and in 18.76 per cent. of cystic sarcomata, and was met with in 25 per cent. of the giant-celled, 23.58 per cent. of the round-celled, and in 17.58 per cent. of the spindle-celled sarcomata.

Of the 156 cases only 10 tumors were multiple; sarcomata of the breast are therefore generally solitary. They are most commonly situated in the vi-

cinity of the nipple, and are usually found at the upper and outer quadrant of the breast when they arise from the circumference of the organ. If central they are generally cystic; while when they arise from outlying lobes they are usually solid. In either case they are disposed to extend beyond their capsules, those of central origin invading the whole gland and the surrounding soft parts; while peripheral sarcomata infect the latter structures and finally invade the whole breast. Sometimes they are pedunculated, but usually they form broad based hemispherical tumors. Of the cases in which the age was given, 148, 1 occurred as early as 9 years, 14 between 10 and 19 years, 16 between 20 and 29, 40 between 30 and 39, 39 between 40 and 49, 23 between 50 and 59, 14 between 60 and 69, and 1 at 75 years. Only 4, 2.70 per cent. appeared before the age of 16, or during the formative stage of the mamma; 67, 45.27 per cent. between 16 and 40, the period in which the breast and genitalia are in most active function; and 77, 52.02 per cent., during the period of functional decline—after 40 years. The average age for the development of the spindle-celled tumors was 36 years 7 months, for the giant-celled 47 years 3 months, and 48 years for the round celled. The average age for cystic sarcomata was 38 years 5 months, and for the solid sarcomata 43 years. "Hence it may be said that spindle-celled and cystic sarcomata are metaplasias of the functionally perfect mamma, and round-celled, giant-celled, and solid sarcomata are metaplasias of the declining gland." The etiology of sarcoma is certainly most obscure; its development can rarely be traced to injury or disease, it is uninfluenced by hereditary predisposition and the social state and menstrual irregularities or arrest play no important part in the production of the neoplasm.

As regards the increase of sarcoma, it is more rapid than that of any other neoplasm, but is very varied, being independent of the age of the patient, and influenced by the structure of the tumors, by their degeneration, and by the absence or presence of cysts. Like cystic fibroma, sarcoma may remain stationary and of small size for a long time, when, without apparent cause, it suddenly begins to grow, and so rapidly that a nodule that has been 15 years in attaining the size of a walnut reaches that of a double fist in 3 months; or one that has been quiescent and of the size of a walnut for 25 years, suddenly begins to grow, and measures 18x14 inches in 3 years. In these cases rapid accumulation of fluid and solid contents in the dilated ducts may be looked for; or the increased size may be due to myxomatous changes and interstitial hæmorrhage. The influence of increased flow of blood to the mamma, which has been assigned an etiological rôle by some authors, is not borne out by the cases analyzed by Dr. Gross. In short, the growth of sarcomata of the breast is so capricious that no average rate of increase can be assigned to them. "On the whole, however, one is justified in concluding that the small-celled, the cystic, the myxomatous, and the telangiectatic increase more rapidly than the large-celled, the solid, and the pure tumors." Elevation of the temperature of the breast may be said to be characteristic of telangiectatic and rapidly proliferating growths. Careful investigations in regard to temperature may establish some useful points in the diagnosis of connective tissue tumors.

In 1880 Dr. S. W. Gross established the fact that all the varieties of sarcoma are malignant, and a study of 92 of the 156 cases now under consideration confirms that view. Of the 92 cases 1 ran a natural course, being a case of round-celled sarcoma of both breasts that proved fatal, with presumed secondary deposits, in 7 months from its first appearance. The remaining 91 were operated on. Of these 32 were well from periods varying from 1 month to 10 years and 3 months; in 42 there was local recurrence; in 8 there was both regional recurrence and mestastasis; 3 recurred, with evidences of general dissemination; in 4 cases there were metastases, and in 2 cases presumed metastases without recurrence. So that 64.83 per cent. of these cases were malignant. 32 patients were well for an average period of 49 months and 10 days after the operation, the disease having existed for an average of 69 months and 11 days before operation; making the mean life of these patients almost 10 years. Of the reproductions 57.7 per cent. took place in 6 months, "while after 12 months there were only 13, or 28.8 per cent., and of these there were only 4, or 8-8 per cent. after 2 years. These statements lead to the belief that the chances for the patient are relatively good after the lapse of 2 years, and that the prognosis is all the more favorable as the period of freedom from signs of local contamination prolongs itself." The average date of recurrence was 10½ months, but the histological character of the growth appears to exert a marked influence on the date of recurrence. The average date of the round-celled was 4 months and 20 days; for the spindle-celled 11 months 27 days; for the giant-celled 12 months 10 days. Cystic tumors recurred in 8 months 5 days, and simple in 13 months 9 days—a contrast

which is "more striking when we state that the average date of recurrence for cystic round-celled growths was 3 months and 4 days as against 6 months and 8 days for the simple round-celled, and 9 months for cystic spindle-celled as against 16 months for the simple spindle-celled."

The age of the patient and the size and rate of increase of the tumor materially influence the prognosis. Before the age of 35, when the mamma is most active, a small slowly growing sarcoma does not return, while a rapidly growing tumor, especially if cystic, will very likely recur. The cases do not bear out the statement of some authors that the more tender the age the more rapid the growth of, and the more malignant, the sarcoma. The analysis shows that "a sarcoma occurring in a functionally active breast evinces a marked disposition to recur after operation, with less disposition to metastases, while a sarcoma of the declining breast recurs less frequently, but is generalized in a greater number of cases." The histological character and stage of evolution of the tumor also affect the prognosis. While the round-celled are most malignant, metastasis of the spindle-celled variety may be asserted; nor can it be said that cystic sarcomata are innocent or of limited malignancy, as it recurs in more than one-half the cases, and becomes generalized in 1 of every 9 cases. The general and inaccurate statements regarding the malignancy of sarcomata lead to the belief that cystic sarcomata have been confounded with other cystic growths which do not infect the system. Like carcinoma, sarcoma is a malignant growth, but differs from it in less frequent invasion of the skin, chest walls and paramammary tissue, less frequent invasion of the axillary glands; less frequent local recurrence after removal; more frequent metastases found *post mortem;* having a greater average duration of life (81 to 39 months); and more permanent cures (13.18 to 10.39 per cent., 4 years being taken as the period of safety).

Small, slowly increasing fibrous sarcomata are difficult of diagnosis, as they may be confounded with fibromata, especially when they arise at the circumference of the mamma. "The diagnosis is based on their indolent origin, mobility, elastic or unequal consistence, their tendency to ulcerate, the not infrequent discoloration of the skin, and enlargement of the subcutaneous veins, and, possibly, elevation of the temperature; upon the suffering which they awaken late in the disease; and upon their greatest frequency after the fortieth year." Before the age of 16 fibromata and sarcomata are the only tumors met with, the former being twice as frequent as the latter. Fibromata are always solid and grow slowly; sarcomata are cystic in 75 per cent. of all cases, and medullary in the remaining 25 per cent., and usually grow rapidly. Hence, at this period of life cystic and medullary tumors are sarcomata. The more complete diagnosis of the varieties of sarcoma, as given by Dr. Gross, is of sufficient interest to give entire in another column (p. 336).

As regards the treatment of sarcoma little need be said. "The entire breast, along with any skin that may be invaded, must be extirpated, especial care being paid to the complete removal of every particle of paramammary fat and the fascia of the pectoral muscle, in which tissue experience shows that recurrence takes place. In the event of repullulation, the growths should be freely excised as fast as they appear, as such practice not only prolongs life, but may bring about a final cure." While the recurrent regional disease is more intense than the primary, and other recurrences follow rapidly, removal of the growths as fast as they appear alleviates suffering, prolongs life, averts visceral infection, and may lead to cure.

SERIOUS ACCIDENT TO DR. WETMORE.—On Friday night, Sept. 2, Dr. A. Wetmore, of Waterloo, Ill., walked off the St. Louis special train *en route* to Washington, and received serious injuries to the head. He was found in an unconscious condition near Pennboro', W. Va., by a night watchman of the Baltimore and Ohio Railway, with a deep long wound in the head. Late dispatches state that he is now improving, and will probably be well enough in a few days to be removed to his home.

SOCIETY PROCEEDINGS.

AMERICAN DERMATOLOGICAL ASSOCIATION.

Eleventh Annual Meeting, held in the Hall of the State Medical and Chirurgical Society, Baltimore, August 31 and September 1 and 2, 1887.

WEDNESDAY, AUGUST 31. FIRST DAY.

The Association was called to order by the PRESIDENT, DR. H. G. PIFFARD, of New York.

DR. R. W. TAYLOR, of New York, read a paper on

TOXIC EFFECTS OF IODOFORM.

The author reported the details of 24 cases, 9 of which came under his personal observation. Sixteen of these cases were accompanied by constitu-

tional disturbance, while in 9 the rash existed alone without any apparent systemic symptom. A large number of cases have been reported in which toxic constitutional effects have followed the use of iodoform. It is evident that the toxic effects of iodoform are more frequently manifested by systemic irritation than in cutaneous manifestations. The drug may set up inflammatory disturbance of the skin without apparent constitutional reaction.

The skin affections may be classed under the general head, of dermatitis, but for the sake of accuracy may be further subdivided, according to their relative frequency, into erythema, eczema, and purpuric spots. The erythema due to iodoform may present many of the features of similar eruptions. Its mode of invasion is prompt and extension rapid. It may commence at the point where the application has been made, or other patches of erythema may begin in other parts and extend to meet that from the original point. Erythema may follow from simply smelling the iodoform. The eruption completes its evolution in a few days and under favorable circumstances this eruption rapidly undergoes involution, behaving much as an ordinary exanthematous eruption. Various forms of erythema have been noted. Sometimes it is very superficial. In other cases it is still superficial but of a deep red hue, and may be termed scarlatiniform. In exceptional cases, usually those presenting grave constitutional symptoms, the erythema presents points of resemblance in hue and brawny feeling to erysipelas. Other cases may be placed under the head of erythema multiformis. The eczema resulting from the use of iodoform is usually of severe form and rapid evolution. It may begin at the point of application or in parts at a distance. It may also result from simply smelling the drug. Its character is pronounced from the first. A large surface is involved and in all respects it is similar to ordinary eczema malidans. The involution is as a rule almost as rapid as the evolution if the drug is removed. In some instances, however, the eruption shows a tendency to become chronic. It is usually amenable to treatment. Eczema occurred in 9 of the 25 cases reported.

The time of the appearance of the eruption was noted as follows: In 12 cases it began within a few hours, or within the first day; in 2 on the second day; in 3 on the third day; in 1 on the ninth day; in 1 on the twelfth day; and in 2 on the fourteenth day. This is in contrast with the statistics of the onset of the symptoms where systemic poisoning results. In the majority of these cases the morbid symptoms begin in the second week. As a rule it may be stated that in proportion as the rash is slow in appearing, so are the concomitant symptoms severe. Statistics seem to show that the cutaneous manifestations are most frequent in youth and middle age, while the systemic symptoms occur most frequently in the aged. The erythema appearing upon the hands of dressers in hospitals as a result of the direct contact of the iodoform was regarded as being related to the ordinary hyperæmia induced by mustard and other irritating applications, and not to be considered as belonging to the class of cases described.

Dr. J. Nevins Hyde, of Chicago: I have seen the eczematous form of eruption, and also erythema multiformi, and in one case there was a bullous type of eruption resulting from the use of iodoform. This occurred in a young man who had an operation performed for necrosis of the tibia. Iodoform was used in the dressing of the wound. The recovery was complicated with recurrences of erythema upon the surface of the body. This occurred in the form of large areas of a vivid bright color, afterwards becoming dull. Scattered over these surfaces were large bullæ containing a clear transparent fluid, and when ruptured produced superficial excoriated surfaces. The condition was finally traced to the iodoform application, and within ten or twelve days after the discontinuance of the iodoform the eruption disappeared and did not recur. I would dismiss from this category all cases in which iodide of potassium is given internally at the time that the iodoform is applied externally. I suspect that in these cases, when the eruption occurs, it is due to the iodide of potassium, for we occasionally see cases in which iodide of potassium has been taken for a certain period without unpleasant effects, suddenly present manifestations of iodism as the results of some transitory condition, as change of climate, temperature, etc.

Dr. J. C. White, of Boston: I have seen a number of cases of eruptions due to the free use of iodoform in the treatment of surgical injuries. I have never seen systemic manifestations resulting from its use in cases where there was dermatitis. The form of eruption has varied from simple hyperæmia up to the vesicular form, and going no further in most cases. In occasional instances there appeared a furuncular form of inflammation, owing, possibly, to mechanical obstruction of the cutaneous follicles by particles of the powder. The eruption is almost always found in the immediate vicinity of the point of application. When the remedy is applied in the form of a powder it may easily be transferred to other parts of the body, and thus cause an extension of the eruption. I have never seen any affections of the mucous membrane resulting from the use of iodoform, nor have I seen any purpuric eruption follow its use.

Dr. R. W. Taylor: With reference to Dr. Hyde's remarks in regard to the influence of iodide of potassium in those cases in which it was administered in connection with the local application of iodoform, I would state that in one case the eruption came on when the patient was not taking iodide of potassium, and was relieved when the iodide was given. In one case the patient (a physician) thought that the eruption was worse when he was taking iodide of potassium, but the eruption always promptly followed the use of iodoform when no iodide was taken.

Dr. I. E. Atkinson, of Baltimore, read a

CLINICAL STUDY OF ERYSIPELAS IN CHILDREN.

The author considered erysipelas to be a contagious infectious disease. It has not yet been determined whether it is due to one special microörganism, or whether it may be produced by several. The study

of the affection as it occurs in children offers some opportunities for the solution of this question. During the first month erysipelas is extremely fatal, but the mortality gradually diminishes up to the end of the first year. The fatality at this period of life is probably to be attributed to its dependence upon the poison of puerperal fever. The author reported the detailed histories of three cases of erysipelas in young children. In two of these cases a cellular board-like induration occurred as the result of intense œdema and cellular infiltration. In neither of these cases was there suppuration. The speaker thought that erysipelas should be considered the expression of the effect of one of a number of specific causes, and in that sense should be regarded as a symptomatic inflammation.

DR. J. C. WHITE, of Boston: The author mentioned erysipelas as a contagious disease. Does he personally know of a case in which it was directly transferred from one person to another. He also referred to the use of the tincture of chloride of iron in the treatment of the disease; does he regard this as producing any specific therapeutic action?

DR. ATKINSON: Personally I have not seen an example of the direct contagiousness of erysipelas, but there are a number of well authenticated cases on record. I cannot say that tincture of the chloride of iron is a specific, but in my experience it has had a more favorable influence on the course of the disease than any other remedy that I have employed.

DR. WHITE: I have never seen a case of facial erysipelas transferred from one person to another. If at all contagious, it must be so with extreme rarity. I regard tincture of the chloride of iron and all other internal remedies as useless in the treatment of this form of erysipelas. For five years I have given no internal medicine in the treatment of erysipelas, and I have not seen a case in which the erysipelas eruption did not disappear in from five to ten days. In my experience, infantile erysipelas has been so wholly unlike, in its clinical aspects and its course with or without treatment, ordinary traumatic erysipelas, that it seems to be quite a distinct disease.

DR. J. NEVINS HYDE: I have seen one case which seemed to indicate the contagious nature of erysipelas. A young mother soon after confinement had her ears pierced for ear-rings. This was shortly followed by typical erysipelas spreading over the face and scalp. Soon the nursing child was affected with the disease and presented typical erysipelas, from which it promptly died. I agree with Dr. White that the tincture of chloride of iron is useles in the treatment of the affection, although I consider it harmless.

DR. ATKINSON: In those cases of erysipelas which may be termed septic, whether the disease depend upon ordinary septic poison or not, I have no doubt that benefit is derived from the administration of the tincture of iron in large doses, as much as ℥ss three or four times a day.

DR. R. B. MORISON, of Baltimore, read a paper on

LEUCOPATHIA UNGUIUM, A PECULIAR AFFECTION OF THE NAILS.

The ordinary white spots found on the nails are well known; they are gradually forced to the outer edge of the nail by the growth of the new nail behind, in from 4 to 6 months. These spots are usually irregular in shape. A young lady, age 20, recently came under the author's care, in whom these spots were uniform. The nails showed white bands $\frac{1}{16}$ inch wide, extending across the nail from border to border. The nails were perfectly smooth, and in other respects normal, and the general health good. These white bands had appeared regularly for many months. During the previous summer the bands disappeared almost entirely. The toe nails were not affected, and the hair was not grey. Microscopic sections were made by cutting the white lines at right angles. By direct light the lines appeared of a a pure white, while the remainder of the section was of a dark color. Acetic acid and other agents caused the lines to disappear, as did Canada balsam. It seemed clear, then, that the lines were due to air-spaces in the nails.

DR. J. NEVINS HYDE, of Chicago, read a paper on

THREE CASES OF SIMULTANEOUS HAND AND FOOT DISEASE.

Case 1.—C. B., æt. 19, came under observation in May, 1887. Family history good; he denied specific disease. Three years ago he noticed the first signs of the present affection on the fingers and later on the toes. The disease then extended to the palms of the hands and the soles of the feet. The local affection had gradually increased, and he complained of the stiffness thereby induced. The free border of the nails was tilted away from the fingers, and the space thus left was filled with hardened matter. The substance of the nail was dry and rugous. He had recently noticed some sweating of the hands. The palms of the hands and soles of the feet presented a condition of tylosis. The nails of the toes were tilted away from the phalanges, and presented a condition similar to that seen in the nails of the fingers. There was also bromidrosis.

Case 2.—A female, æt. 24; family history good. The patient presented tylosis of the hands and feet, which continually recurred. Careful examination showed her general condition to be fair. The pulse was unusually slow, 50 a minute in the sitting posture. The hands were cold and bathed with profuse perspiration. The finger-nails were somewhat rugous, and tilted from the fingers, and the space filled with grayish masses. The same condition existed in the nails. The palms of the hands and the soles of the feet were simultaneously involved, showing callosities. Every six or eight weeks there was a reformation of the masses on the soles of the feet. At no time did the tissue beneath these masses present a sound appearance. Treatment with various measures, continued for a long period, had no apparent effect.

Case 3.—Male, æt. 28, with a good family history and no history of syphilis; for two years had noticed some numbness of the lower extremities, especially marked at night. There was entire absence of hair on certain parts of the lower extremities. He stated that 15 years before, he had been struck on the head

with a brick, and that a few years before coming under observation an operation had been performed upon the head, the exact nature of which he could not state. The hands and feet were habitually cold. Broad vertical areas, chiefly on the outer aspects of the limbs, were found in which not a single filament of hair could be detected. Two of the finger-nails of the right hand showed marked vacuolations.

Dr. L. A. Duhring, of Philadelphia: I do not recall a case of white spots upon the nails in which the distribution was as uniform as in the one described by Dr. Morison. I have however, met with cases calling for treatment. I have regarded the affection as dependent upon a want of nutrition in the nail tissues, and with that view have used arsenic with satisfactory results. This acts upon the nervous system, improving the nutrition of the whole member and the finger nails in particular.

Dr. P. G. Unna, of Hamburg: With reference to Dr. Morison's paper, I would say that we know from the labors of various investigators that the presence of air in the horny tissues is always a secondary phenomenon. The horny masses must be changed before they will allow the entrance of air. These white spots in the nails are analogous to medullary substance. I have seen cases similar to those described by Dr. Hyde, in which the affection was not only simply of the nails, but also of the hands and feet, and I have allied them with eczema. My principal reason for so doing has been that in some cases I have seen combined with the disease of the hands, patches of eczema on various portions of the body.

Dr. R. W. Taylor, of New York: I should regard the cases described by Dr. Hyde as ordinary cases of tylosis of the hands and feet. This may occur idiopathically, or as a result of chronic eczema, or as a result of chronic syphilitic psoriasis.

Dr. LeGrand N. Denslow, of St. Paul: I am not in accord with Dr. Hyde in his view of the nature of the cases he had described. I have regarded such cases as instances of callosities. With reference to treatment, I would say that in my last case, in the person of a hotel porter who was unable to perform his duties on account of the tender condition of the soles of his feet, I first removed the callosities by the application of a saturated solution of salicylic acid in collodion, and then made a false sole for the feet by the application of belladonna plaster spread upon kid. By this means he is able to attend to his work in comfort.

Dr. L. D. Bulkley, of New York: I have under my care a patient who presents a condition of the nails very similar to that described by Dr. Morison. She is a sufferer from gout, and from her family history I thought these lines were possibly gouty deposits. I think, however, that Dr. Morison has shown their true nature.

I agree with Dr. Taylor in considering the cases reported by Dr. Hyde as closely allied in their nature to cases of eczema. In the treatment of these cases I have derived considerable benefit from keeping the parts constantly macerated by the use of an oiled-silk lining sewed into an ordinary stocking and worn constantly, night and day.

Dr. E. Wigglesworth, of Boston: I have now under treatment a case similar to those described by Dr. Hyde. I have regarded it as a case of tylosis. In the treatment I have employed a 20 per cent. solution of salicylic acid in emplastrum saponis until the callosities were removed. I have then dressed the parts with equal parts of belladonna and mercurial plaster spread on kid. Regarding the condition as dependent upon lowered nutrition, I also employed tonics with good effect.

Dr. G. H. Tilden, of Boston: In connection with Dr. Morison's paper I would mention a case which I recently saw. It was a case of two nails growing on one finger, one above the other. The patient had one year ago met with an accident which destroyed the nail, and evidently split the matrix into two halves, and each half had produced a separate nail.

The President: The affection described by Dr. Morison is one with which, in its mildest form, we are all more or less familiar. The most aggravated case that I have seen has come under my observation within the last two weeks. This case presents fully as extensive leucopathia as the case reported to-day, although not so regularly distributed. This condition is analogous to leucopathia of the hair, in which I have satisfied myself that the condition is due to fatty degeneration of the cells and subsequent absorption of the fat. In the case of the nail, after the absorption of the cells which had undergone fatty degeneration, the horny nature of the tissue would prevent closure of the cavity, which would remain filled with air.

Dr. Hyde: I would merely state that, like Dr. Taylor and Dr. Bulkley, I first regarded these cases as instances of tylosis, but a large experience showed that this view was not correct. In one case I have watched the course of the disease for three years. The parts have been macerated for days and weeks at a time. I know that there is a constant new formation of these masses. I know that the nails are continually undergoing a similar process. These cases are entirely different from the ordinary forms of tylosis and callosities.

Afternoon Session.

Dr. L. Duncan Bulkley read some

CLINICAL NOTES ON PRURITUS.

Pruritus or itching is an extremely common symptom resulting from various causes, many of which are recognizable. There are a certain number of cases in which the pruritus appears without apparent cause. It was only this last group of cases that were considered. In the present state of knowledge, it is not possible to determine the exact lesion in these cases. Pruritus may be defined as a functional disturbance of the nerve elements of the skin, resulting in itching, and dependent upon local irritation or local lesion. Out of a total of 5,000 cases of general skin diseases the author had records of 80 cases of pruritus, a proportion of about 1.75 per cent. 30 of the patients were females and 50 males. In the majority of cases there was some chronic disease, such as

gout, albuminuria and chronic bronchitis, or marked evidence of lowered general vitality. The cases were classed under the following heads, according to frequency: Pruritus hiemalis, pruritus genitalis, pruritus ani, pruritus vulvæ, pruritus scroti, and pruritus senilis. In quite a number of instances, the pruritus proved rebellious to treatment. Temporary benefit was obtained in some cases, while in others no relief resulted from treatment. The author was of the opinion that in many cases the condition resulted from reflex irritation. In connection with this subject the author referred to 115 personal observations which he had made. These consisted in the production, either accidentally or intentionally, of a point of irritation in some part of the body, and in noting the point at which itching was experienced. The observations were made with the object of determining whether or not there were crossed reflexes. The reflex sensations cannot be induced at will, but seem to be more readily brought about when the body is fatigued. 84 of the observations related to the right side of the body, while 31 relate to the left. In all but 3 cases the reflex occurred on the same side as the point of irritation. These three exceptions were as follows: irritation on inside of right knee, reflex itching felt at left scapula; irritation of right thigh, four inches above the knee, reflex at the insertion of the left deltoid; irritation of the left heel, reflex at right side of the pubes. Irritation in the same locality will frequently, on different occasions, produce reflexes in entirely different localities. The results have been so varied that it is impossible to classify them into definite groups.

DR. F. B. GREENOUGH, of Boston, read some

CLINICAL NOTES ON PEDICULOSIS.

The speaker had been induced to examine this subject on account of the fact that the statistics of the Association had shown that there was a greater proportion of cases of pediculosis reported from Boston than from any other city. He had found, taking the statistics for nine years, that the proportion of cases of pediculosis to the total number of cases of disease of the skin was, in Boston, 5.5 per cent., in New York 3 per cent., in Philadelphia 3.33 per cent., Baltimore 2.12 per cent., St. Louis 1.5 per cent., Chicago 3 per cent., and Canada 3.3 per cent. In 1884 New York reported, out of a total of 2,737 cases of skin disease, no cases of pediculosis of the head. During the same year the number of cases of pediculosis pubes reported from Chicago equaled that reported from all of the other cities. The only explanation of this fact that can be offered is that the difference is more in observers than in the number of cases of the affection. An observer in one city may put under the head of eczema capitis a case which would be considered in Boston as one of pediculosis capitis. There are three different forms of pediculi: the pediculus capitis, the pediculus corporis and the pediculus pubis, and these pediculi are rarely seen except in their own locality. The presence of pediculi in large numbers causes cutaneous trouble. So far as the efflorescence goes, the eczema thus induced is identical with that due to other causes. The distribution and other conditions make the diagnosis easy. The speaker had only in one instance noted the pediculus corporis on the skin, and he thought it possible that they may feed without leaving the clothing.

DR. L. H. DUHRING, of Philadelphia: My experience with a certain number of cases of pediculi vestimentorum is that they do leave the skin, and I have seen them feeding upon the skin.

DR. J. C. WHITE, of Boston: In regard to diagnosis, I have seen cases in which I have been able to make the diagnosis without looking at the head. In children, where there is an eczematous eruption in certain respects resembling impetigo contagiosum, located around the orifice of the mouth, the nostrils, and the lobes of the ears, I make the diagnosis of pediculosis of the scalp. Another practical point is that pubic lice do not always confine themselves to one locality, but may be found in different parts of the body. Careful examination will show them not only in the axilla, but also in the lower extremity. In one case, that of a child, I found the pubic lice in the hair of the head. If the treatment is limited to the pubic region the results may be unsatisfactory. In the treatment of pediculosis of the pubic region and of the head I always use crude petroleum. This does not produce the slightest irritation upon the most inflamed surface. It is allowed to remain in contact with the hair for two or three hours.

DR. P. G. UNNA, of Hamburg: In Vienna it is the custom to consider every case of pustular eczema of the head and scalp as due to pediculi, without making any further examination. This is, I think, a mistake. Although pediculi may be present in these cases they may only be secondary manifestations, resulting from the good feeding ground furnished by the diseased surface.

DR. J. N. HYDE, of Chicago: The great predominance of cases of pediculosis pubis in Chicago, which has been referred to by Dr. Greenough, may perhaps be explained by the fact that during the winter season, when navigation is closed, many seamen congregate there. During the summer these men have been engaged along the coast, and have indulged in all kinds of debauchery. They come under observation often in a very vile condition, suffering with syphilis, pediculi and blenorrhagia.

DR. L. D. BULKLEY: I have heard no reference to a little lesion made by the perdiculus corporis, to which attention has been directed by Dr. Tilbury Fox, and one which he considers of diagnostic value. This is a little hæmorrhagic spot resulting from the insertion of the proboscis of the pediculus into the follicle of the skin in the process of feeding. I should like to know if any of the members here have put any trust in this as a diagnostic sign?

THE PRESIDENT: A number of years ago I collected several pediculi vertimentorum and watched the process of feeding. I was able to verify the statement of Dr. Tilbury Fox. The sucker of the pediculus corporis is not a cutting instrument. It is apparently inserted into a follicle After its removal a minute droplet of blood will appear, which after a few hours becomes black. This sign is often of consid-

erable value in diagnosis. In the treatment of this affection crude petroleum seems preferable to kerosene, which is sometimes used. I know of two cases in which the use of kerosene produced a violent dermatitis. Crude petroleum is less irritating.

Dr. J. C. White, of Boston, read an

INTRODUCTION TO THE STUDY OF DIET IN THE PRODUCTION AND TREATMENT OF SKIN DISEASES.

Many articles of diet are considered both by the people and by the profession as injurious in certain affections of the skin. The author held that in regard to many of these articles, there was no evidence of their injurious effects, with the exception of popular belief, and that they should not be discarded until more proof was advanced against them. Among various substances considered injurious in skin diseases, butter was mentioned, but the author regarded pure uncooked butter as entirely harmless so far as the skin is concerned. Oatmeal and buckwheat have been classed in the same category, but the speaker thought that there was no foundation for such a belief. The same remarks would apply to fish and meat, which have been regarded as harmful by some dermatologists. Dr. White then mentioned certain articles which in his experience had seemed to be prejudicial in certain skin affections. Alcohol aggravates the course of inflammatory condition of the skin. In some, lager beer will produce a crop of acne over the lower half of the face. The eating of acid fruits may cause an acute eczema. Strawberries often cause urticaria. Apples are said to produce an acneform efflorescence about the mouth. Some nuts, especially the English walnut, may produce inflammation of the mucous lining of the mouth. Shellfish and crustaceans may occasionally give rise to urticaria. Other meats may at times produce similar effects. The worst case of giant urticaria that the speaker had seen had followed the use of roast turkey.

Dr. J. N. Hyde: I can agree with the speaker in regard to most of the articles mentioned. I should, however, put oatmeal on the black list. I have seen a case in which facial efflorescence is always produced by the ingestion of this article, even when used without the addition of anything else. I have in several cases thought that urticaria had been induced by the use of the Natal or seedless orange. When urticaria follows the use of the grape, I think it is principally due to the fact that the seeds and skin of the grape are also swallowed.

Dr. E. B. Bronson, of New York: While these articles of diet may have no specific effect on the production and course of skin affections, they may act in a reflex manner by causing disorders of the digestion. Many of them probably owe their effect to the fact that they are unaccustomed articles. Newly arrived emigrants frequently suffer from erythema and urticaria; this is especially true for emigrants from Ireland. This I have attributed to the radical change made in the diet and have had good results by ordering the patient to return to his former diet consisting largely of potatoes.

Dr. E. Wigglesworth, of Boston: I think that with oatmeal the effect depends largely on the size of the grain and the method of cooking. If not thoroughly softened it may cause irritation of the mucous lining of the stomach and bowels, and induce urticaria, which as a result of scratching may pass to secondary eczema. It seems to me that salt air has some injurious effects in cases of eczema. My patients with eczema are better in the mountains than at the sea-shore. In the case of acne it is the reverse; such patients are usually benefitted by the sea-air.

Dr. G. H. Rohé, of Baltimore: There seems to be no doubt that certain articles, such as crabs and oysters, affect the skin more frequently than other articles; and yet I know of no article so readily digested as oysters. The fact that they are unaccustomed articles of food may explain their effects to a certain extent. I have seen pruritus induced, as I supposed by the use of buckwheat.

Dr. P. G. Unna: In my private hospital I allow a liberal diet, and I rarely find it necessary to impose any restriction. I make it a point, by close questioning, to find out what articles seem to unfavorably influence the condition, and then direct that they be avoided. I have seen urticaria produced by strawberries in cases in which the berry has not been swallowed, but simply placed in the mouth.

Dr. L. D. Bulkley: I have more than one patient who cannot take raspberries without having urticaria. In some cases pineapples have a similar effect. Personally I pay a good deal of attention to the diet. Milk has not been referred to; I see many patients in whom injurious effects have followed the use of milk with the meals. If taken between meals it produces no injury. I have found that almost every case of acne is aggravated by soup taken with the food.

Dr. LeGrand N. Denslow, of St. Paul: I think that in this connection the quantity of food taken is of importance. Many people who do not lead active lives eat too much, and I have found it of advantage in certain cases to restrict the patient to one meal a day, allowing him, however, to eat all that he wants at this time. I would add to the injurious articles already mentioned, pork, veal, and anything fried.

(*To be concluded.*)

FOREIGN CORRESPONDENCE

BASLE AND FREIBERG.[1]

Formation of Fat and Causes of Obesity—Immediate Coaptation in Compound Fractures—Skin Grafts—Scoliosis in School-children—Hydronephrosis—Antagonism of Germs—University of Basle—Antiseptics—Socin—Fæcal Fistula—Excision of Larynx for Carcinoma — Supra pubic Cystotomy — Volvulus — Intra-glandular Enucleation of Struma—Garrè—Fehling — Hegar — Myo-fibroma Uteri—Colpo-perineorrhaphy—Wiedow—Kraske—Extirpation of High Rectal Cancer—Coxitis—Osteotomy for Rickety Legs.

Dear Dr. Fenger:—While in Basle I attended the meetings of the Medical Society of Basle and of the

[1] By permission of Drs. Fenger and Senn.

Central Verein; the latter is a National society representing the German Cantons, and has 1,100 members. The Basle Medical Society met the evening before the meeting of the Central Verein, and was attended by many of the visitors. Professor Massini, the President, made a short address and introduced Professor Bunge, who read a paper on "The Formation of Fat in the Body, and the Causes of Obesity," the subject being treated from a strictly scientific and chemical standpoint. He showed clearly that fat is produced from fat, other hydrocarbonaceous food and albuminous substances. The causes of fat accumulation were attributed to want of muscular exercise and consumption of alcohol. He said that dieting in the treatment of obesity was useless and often dangerous, and advised as the safest, most rational and most efficient treatment, active muscular exercise and abstinence from alcoholic drinks. As no one responded to the invitation to open the discussion on the paper it must be taken for granted that the views advanced represented those of the members present.

The Central Verein held a meeting which lasted only one day. At 9 A.M. the members visited the different clinics, where the directors presented interesting cases with brief practical remarks. Professor Socin talked to about fifty members on the "Treatment of Compound fractures by Immediate Coaptation." He recommended the introduction of ivory pegs about three inches long, and as large as the medullary cavity, into the shafts of long bones as a direct means of coaptation. He showed three cases in which this treatment had been successful, the ivory having healed in. It is certainly a triumph of antiseptic surgery that such a large foreign body can be introduced into the medullary cavity without causing serious disturbances or materially interfering with the normal reparative process; but I doubt very much if Professor Socin, should he have the misfortune to sustain a compound fracture of the leg, would submit to such treatment. That medullary tissue takes an important part in callus-formation after fractures no one can deny, and that it is not good surgery to crush this tissue with such an enormous ivory plug hardly requires an argument. I suggested to him that if such treatment is to be adopted it would be decidedly better not to use solid cylinders of ivory, but hollow tubes which answer the same mechanical purposes and would not interfere with the formation of an internal callus, and at the same time would not tax the resources of nature in her efforts to remove the foreign body by absorption. For myself I should prefer to secure the advantages of immediate coaptation not by plugging the medullary canal, but by making perforations in the compact layer at corresponding points, and introducing small bone nails. The perforations would only hasten the inflammatory osteoporosis, which must precede callus-formation.

Several cases of genu valgum and curvature of the legs were shown in which the deformities had been corrected by osteo-clasis with Robin's apparatus. Socin speakes favorably of Robin's osteoclast as a substitute for osteotomy.

Cases were also shown in which large cutaneous defects after operations were treated by transplantation of large skin-grafts by Thiersch's method. For success the whole surface must be covered with grafts, which must be very thin. Usually on the third day, when the dressing is removed, the surface is found dry and the grafts firmly adherent.

At noon the meeting was formally opened by the President, Dr. Sonderegger. Professor Kocher read a paper on "The Prevention of Scoliosis in School-children." He believes that structural and architectural changes are produced in the vertebræ by pressure and rotation caused by faulty desks in the school-room. As the best and surest means to prevent lateral curvature of the spine he recommends a desk with a movable top, which can be so arranged that while the child is writing the erect position cannot be changed.

Dr. Haffter reported a case of hydro-nephrosis cured by making an abdominal fistula.

Dr. Garrè read a valuable paper on "Antagonism among Germs." He has made many careful experiments to determine the effect of a culture of germs on different culture substances, and after removing the germs he inoculated the same soil with other germs. From the results thus far obtained he finds that some germs affect the soil favorably for the growth of other forms of germs, while in other cases he finds a direct antagonism. For example, a soil impregnated with the ptomaines of the *bacillus fluorescens putridus* remains perfectly sterile when inoculated with pus microbes. These investigations have an important practical bearing.

The University of Basle does not admit female students. The medical class numbers 120; of this number about thirty pass their final examination annually. About twenty-five attend the surgical clinic. The surgical wards are on the first floor of the Bürgerspital, and contain eighty beds. Corrosive sublimate (1:1000 to 1:5000) is used as an antiseptic, and for dressing sublimated gauze, dry, and cushions of sublimated wood-wool. Catgut ligatures are prepared by simple immersion in an alcoholic solution of sublimate (1:1000), and material prepared in this way has always been found sterile by Garrè. Dressings are usually not changed oftener than every eight to twelve days.

Professor Socin is a splendid lecturer, an impressive and somewhat stern teacher, and a good operator. He is always thorough in making a diagnosis, and never lets a student off until every "what else could it be" has been exhausted.

In his wards was a young man who received a penetrating wound of the abdomen when 3 years old. A fæcal fistula remained, and he was brought into the hospital and placed under Socin's care twenty years ago. Examination showed that the cæcum was injured, and the fistulous opening was repeatedly cauterized, but failed to close. A number of operations were performed but without avail, and the child left the hospital with the fistula. About a year ago he came back for the second or third time, and as intestinal surgery had made great progress since their former attempts both surgeon

and patient had new hope of success. The opening was closed at least half a dozen times, but instead of becoming smaller the fistula got larger, as at each operation more tissue was removed. A few weeks ago it was determined to detach the adherent bowel more thoroughly, which was done without opening the abdominal cavity, and the parts were accurately coaptated with three rows of sutures; this time the operation was a success. At present only a superficial granulating surface marks the site of the former fistula, and the patient is in excellent health.

In the female ward I was shown a case of unilateral excision of the larynx for primary carcinoma of the larynx. The patient was 50 years old, and had had a goitre since childhood. At the time of the first operation the portion of the larynx removed was firmly adherent to the struma, and it was suspected that the disease had extended to the tumor, but it was not thought wise to expose the patient at this time to the additional risks of another serious operation. The struma continued to enlarge rapidly, and as soon as the patient had sufficiently recovered from the larynx extirpation the struma was removed. She recovered well also from this operation, but has been unable to take food *per os*, as during the act of swallowing it passes into the larnyx and causes asphyxia. She is fed exclusively by the stomach tube. She breathes through a tracheal tube, and there has been great difficulty in keeping the larynx patent, as its lumen has become greatly contracted by cicatricial tissue. Dilatation is now practiced by introducing bougies from the tracheal wound upwards.

The benefits to be derived from supra-pubic cystotomy are well shown in the case of a man 45 years old, who was brought into the hospital suffering from symptoms indicating stone. Careful exploration failed to find a stone, but in the eye of the catheter was removed a fragment of tissue which the microscope showed to be carcinomatous. The bladder was opened above the pubes, and the edges of the visceral wound stitched to the external incision. Digital exploration through the opening, and examination with reflected light, showed that the neck of the bladder was surrounded by a carcinomatous mass which had evidently started from the mucous membrane. The whole mass was removed with scissors, spoon and Paquelin's cautery, and the bladder drained. The patient has been comparatively free from pain since the operation. Though a recent examination showed that the disease is returning, the palliative effect of the operation was marked.

A case of acute intestinal obstruction was brought into the hospital recently, and on palpation a well-defined tumor was felt just above the umbilicus; the abdomen was considerably distended. An incision was made through the linea alba, and the tumor came at once in sight and proved to be a volvulus, a large loop of the small intestine with a long mesentery being twisted one and a half times around its axis and fixed in this position. The volvulus was easily corrected, intestines returned, and the wound closed. Vomiting ceased promptly, the bowels soon moved spontaneously, and the patient is now convalescent.

Of the many operations which I saw I will only detail two intra-glandular enucleations of struma. Recent studies as to the nature and structure of struma, especially by Wölfler, have shown that in majority of cases these tumors are atheromata, and appear as distinct circumscribed tumors with a proper capsule in the substance of the thyroid gland. An adenoma, when it has undergone extensive cystic degeneration, becomes a struma cystica. For many years Socin has recognized these facts, and has substituted for the majority of cases what he has termed intra-glandular enucleation in place of excision. He claims that this operation is easier of execution, and that it does not require the unnecessary removal of glandular tissue. He has done the operation fifty-seven times, and has never had a fatal result or serious complication from the operation. The most important step of the operation consists in finding the exact boundary line between the glandular tissue and the capsule of the tumor. If this place be not found, or be lost during the operation, the surgeon is led astray, and may incur serious hæmorrhage. I was very anxious to see the operation performed by Socin, and as no case was on hand we hunted through the hospital and finally found a man about fifty years old, who had lost one of his legs by amputation for tuberculosis of the ankle-joint, and who fortunately had a struma, and enough courage to submit to another operation.

The tumor was located in the median line of the neck, and was a little larger than a hen's egg. A straight incision was made over the centre of the tumor, and as the capsule was adherent anteriorly some tissue was lost in separating the adhesions and finding the exact line between the capsule and parenchyma of the gland. After this was found it took only a few minutes to complete the operation. Hæmorrhage was arrested temporarily by compression, until the bleeding points were found and seized with forceps. After bleeding was arrested the wound was drained, sutured and dressed in the usual manner.

The second case came into the hospital next day, and was a legitimate case, as she had come to have the tumor removed. She was forty-five years old, and had had a goitre since childhood. Three distinct tumors could be felt in the substance of the gland. As the bulk of the mass was to the right of the median line a long incision was made along the anterior border of the sterno-mastoid, and a careful dissection made down to the largest of the three tumors. After its capsule was carefully exposed the enucleation was done in a few minutes. Quite a number of forceps were used to arrest bleeding. After all vessels were ligated the other tumors were attacked through the same incision, and removed in the same manner. When all tumors which could be felt before the operation were removed, it was found that the gland was still large, and at least four more tumors were enucleated through the first incision. After enucleation suturing is done very carefully: first the gland tissue is stitched together, next muscles and fascia, and finally the skin. Socin claims that the wounds after enucleation heal better

than after excision, and that the cosmetic effect is also decidedly better.

Socin has established a nice private laboratory at his own expense in his own house, and has placed his private assistant, Dr. C. Garrè, in charge of it. Garrè has done some of the best work in bacteriology that I have seen in Germany or anywhere else. Socin will find that he has made a good investment which will bring compound interest, if not in dollars and cents at least in the satisfaction that he has been instrumental in the advancement of scientific research. One of the attractions in the hospital is the beautiful collection of gunshot wounds which Socin brought with him from the Franco-Prussian war, and which he has presented to the hospital museum.

The chair of gynecology and obstetrics recently made vacant by the resignation of Professor Bischoff has been filled by Professor Fehling, of Stuttgart. I attended the second clinic he gave, and heard an excellent discourse on congenital syphilis. All the students who attend his clinic must wear linen coats, which are furnished by the hospital. Professor Fehling is a thorough student and an excellent teacher, and his new field of labor will afford ample opportunity to increase the reputation he already enjoys.

From Basle I went to Freiberg, i. B., and remained two days for the purpose of familiarizing myself with the work of Professors Hegar and Kraske. Freiberg has only 25,00 inhabitants, and yet the University has 1,100 students, of which 500 are studying medicine; an example of the over-production of medical men in Germany.

Professor Hegar, by his appearance and habits, might readily pass for an American. He is fifty-seven years old, but physically well preserved. In his clinical instruction he is very thorough, and rarely ever takes more than one patient to fill the hour. During this whole time the patient is kept chloroformed, and from six to twelve students are called upon to examine the case. Hegar told me that unless the patients were anæsthetized they would not submit to such wholesale and public examinations. No students who are dissecting or working in the laboratory are allowed to make these examinations, and they must disinfect their hands thoroughly with warm water and soap and spirits of turpentine. When the list of names is read off and the name of a student is called who has been recently exposed to infection he answers "inficirt," when he is allowed to remain in his seat. In dealing with his patients Hegar is not particularly kind and gentle, and he invariably addresses them with the familiar "du." In his examinations he is very thorough, but his manipulations are not noted for their gentleness. His lecture room is always crowded with students, who appear to enjoy his peculiar temper.

I was present when he performed a very difficult operation on a patient who had a complicated history and *status præsens*. She was about thirty years old, and ceased menstruating in February. For several weeks she had been flooding almost constantly. On examination she was pronounced pregnant. Professor Hegar places great confidence and importance in certain conditions of the upper portion of the cervix as an almost infallible sign of early pregnancy, and was the first to describe this condition. He asserts that at the junction of the cervix with the uterus during the early months of pregnancy the tissues become so soft and yielding that on being compressed between the index finger introduced into the rectum and the tips of the fingers of the other hand applied over the pubes, it becomes almost as thin as cardboard, the tips of the fingers almost meeting; while the lower portion of the cervix, on account of the firmer anatomical conditions, has not lost its resistance. Among other signs this condition was present in the case. As it was almost certain the fœtus was dead, or had already passed away, he decided to clear the uterus of its contents. With forceps and curette large masses of placenta were removed; and on exploring the cavity of the uterus with the index finger, to ascertain whether any fragments remained, it was found that a large interstitial myofibroma projected into the uterine cavity from the right side. Under the unfavorable conditions it was deemed dangerous to leave the tumor, and he decided to remove it through the vagina. On account of the narrowing of the cervical canal it was difficult to make the tumor accessible. The cervix had to be dilated again and again, until finally the tumor could be seized with forceps, when it was drawn down, and the mantle of uterine tissue divided with long curved scissors, after which the tedious process of enucleation began. Although only the finger and dull instruments were used the hæmorrhage was profuse, and the woman became evidently anæmic towards the end of the operation, which lasted at least an hour. After the enucleation the uterine cavity was thoroughly irrigated and disinfected, and after drying it thoroughly with a sponge it was packed with iodoform gauze, with a view of securing drainage.

Hegar looks upon vaginal enucleation of uterine myo-fibroma as one of the most difficult operations, and in this opinion he is sustained by most operators who have had experience with the operation. When a man like Hegar approaches such an operation with trepidation, how must an ordinary surgeon or gynecologist feel when he undertakes such a case? He has had sixty-seven cases of abdominal section without a fatal result. His great hobby is colpoperineorrhaphy, the only operation, he says, for which he is willing to give a guarantee in every case. I saw his son in-law, Wiedow, perform this operation twice, and I must say that I have never seen anything more neat and perfect before or since. For suturing fine silver wire is used exclusively, and the vaginal sutures are allowed to remain for four or five weeks. In a case that Hegar had operated upon two and one-half years before, and which I was requested to examine to see the final result, one of the sutures remained, and was removed this time. The secret of his great success with this operation undoubtedly depends on the accurate suturing. Three kinds of sutures are used alternately, so as to secure perfect approximation and coaptation: deep, half

deep, and superficial. The first are passed completely out of sight; the second are visible only in the centre of the floor of the wound; while the third embrace only the mucous membrane. The sutures are cut quite short. An ordinary long curved needle is used for passing the sutures. For the dissection an ordinary scalpel is used, while the scissors only come into use in smoothing the surface.

The gynecological and obstetrical wards are in a separate building from the main hospital, and contain eighty beds. A good many of Hegar's and Wiedow's operations are performed in a private hospital in charge of Sisters of Mercy.

Professor Kraske, formerly Volkmann's assistant, is a young, but promising surgeon who has been in his present position but a short time. His wards contain 160 beds, and permit a large material for clinical teaching. He is thoroughly antiseptic in his operations. He has recently proposed and practiced a new operation for the extirpation of high rectal cancer, which consists in partial resection of the sacrum in order to secure better access to the disease. He has performed the operation five times, and says he has reason to be satisfied with the results. One of his patients who was operated on some time ago still remains in the hospital, and in a comfortable condition.

During the clinic I attended he presented a number of cases of coxitis before and after operation, and made some general remarks on this disease. He places great stress in placing the limb in the abducted position after the operation, so as to bring the upper end of the femur nearer to the acetabulum. A moderate degree of motion in the hip after operation he considers an ideal result.

He also operated on a rickety child with extreme curvature of the legs. The greatest curve was near the upper epiphyses of the tibiæ, with the convexity directed outwards. Osteotomy with the chisel was performed on the concave side of both tibiæ. The bone was exposed by a straight incision, the periosteum divided and reflected, and with Volkmann's chisel the bone was divided sufficiently for it to be fractured by moderate manual force. The wounds were sutured and dressed, and the limbs placed upon a posterior splint.

As I was following Professor Kraske through his wards a messenger brought word that one of his patients had died suddenly. When we reached the place one of the assistants had just finished a rapid tracheotomy, and by artificial respiration succeeded in restoring the patient. The patient was an old man who was brought into the hospital a few days before with a tumor of the upper jaw and an inflammation below the tongue. A sudden œdema of the glottis caused asphyxia, and life was restored only by the prompt action of the assistant.

N. SENN.

DOMESTIC CORRESPONDENCE

ERYSIPELAS AND PUERPERAL FEVER.

Dear Sir:—After reading an article in THE JOURNAL of August 20, by A. MacLaren, M.D., I wish to give a short detail of facts in the way of counter current. On August 13 I was called to see Mr. T., just brought home suffering from a very severe attack of facial erysipelas, for which I attended him eight days. The third and fourth days of the attendance I saw him twice daily, as he was delirious, and in a state of great prostration. On the fifth day of my attendance I opened an abscess that had formed beneath the right eye, and which, on pressure, discharged a large quantity of offensive pus.

At 2 A.M., August 14, I was called to Mrs. H., in (second) labor. She was delivered at 6 A.M., labor being natural and easy. I dismissed her on the 18th, convalescing favorably. At 6 A.M. August 15 I was called to Mrs. G., in (first) labor. She was delivered at 4 P.M., having had an unusually painful and difficult labor. This same evening I drew the urine with a catheter, as she was unable to pass it, and suffered greatly for an hour before I was able to attend her. She sat up yesterday for the first time, and has had no unpleasant symptoms. On August 20 I attended Mrs. H., miscarriage at four and a half months. She is doing well and has no symptoms of fever.

At each visit to the case of erysipelas I washed my hands thoroughly before leaving the house. In my visits to the other cases mentioned I washed my hands, and then wetted them thoroughly with antiseptic cologne. No other precautions were used.

Theoretically, I ought to have refused to attend the cases of confinement, or one of the cases should have had puerperal fever. I think the danger emphasized in Dr. MacLaren's article has been exaggerated, and that with ordinary care and cleanliness the obstetrician may continue his attendance on cases of scarlet fever and erysipelas.

ALBERT REYNOLDS, M.D.
(University of Vt., 1864.)

Clinton, Iowa, August 24, 1887.

NECROLOGY.

WILLIAM MORROW BEACH.

Dr. William Morrow Beach was born in Amity, Madison Co., O., May 10th, 1831, and died at his home near London, O., May 5th, 1887, aged 56 years. Left at an early age to the care of a widowed mother whose scant means gave him but slight opportunities for an education, his indomitable energy surmounted all difficulties and he reached the front rank among those of professional and general culture. A student of Prof. Samuel M. Smith, of Columbus, O., he was graduated from Starling Medical College in 1853, and immediately entered upon the practice of his profession at Unionville Centre, O. In 1855 he removed to LaFayette, O., and in 1865 to the beautiful farm where he continued to live until his death.

In April, 1862, he entered the service of the U. S. Army as Assistant Surgeon, and joined the Army at Shiloh just after the great battle at that place. As Surgeon to the 20th O., and later to the 78th O., he

was in June, 1864, commissioned Surgeon of the 118th O. and served with that regiment until his muster out in June 1865. In 1869 he was elected, as a Republican Representative in the State Legislature, and two years later was elected State Senator. He was an active worker in Medical Societies, having served as President of his County Society, District Society, State Society, and was first President of the State Sanitary Society; he was also a prominent member of the American Medical Association.

As a practitioner he was careful and attentive, giving his time and best efforts to his patients regardless of their ability to pay. To his brother physicians he was courteous, and to the younger members of the profession particularly attentive. Through his industry and ability he amassed wealth, which to him seemed only a means of doing good to others. He was possessed of rare amiability, great kindness of heart, and a courtesy that won him many friends.

BOOK REVIEWS.

EVACUANT MEDICATION (Cathartics and Emetics). By HENRY M. FIELD, M.D., Professor of Therapeutics, Dartmouth Medical College, etc. 8vo., pp. 288. Philadelphia: P. Blakiston, Son & Co. 1887. Chicago: W. T. Keener.

Dr. Field has written a book that may be said to stand alone in medical literature. A practical work on the indications, action, application and contra-indications of cathartics and emetics is something that, so far as we are aware, did not exist in medical literature until the appearance of this book. Many practitioners have favorite "purgatives" which they are inclined to use indiscriminately. Dr. Field's little book will be of great value to such, if they study it, as well as to others. The book is one of much value, and there is nothing that can take its place. The only criticism to be made is that no mention is made of the use of glycerine in combination with castor oil, which, in small doses, is a most valuable evacuant is cases of impacted colon.

A LABORATORY MANUAL OF CHEMISTRY, MEDICAL AND PHARMACEUTICAL, containing experiments and Practical Lessons in Inorganic Synthetical Work; Formulæ for over three hundred Preparations, with explanatory Notes; examples in Quantitative Determinations and Valuation of Drugs; and short systematic Courses in Qualitative Analysis and in the Examination of Wine. By OSCAR OLDBERG, Pharm.D., Professor of Pharmacy and Director of the Pharmaceutical Laboratories in the Illinois College of Pharmacy, etc., and JOHN H. LONG, Sc.D., Professor of Chemistry and Director of the Chemical Laboratories of the Chicago Medical College and the Illinois College of Pharmacy, etc. With original illustrations. 8vo., pp. 435. Chicago: W. T. Keener.

This book is conveniently arranged in three parts; The Elements, Synthetical Chemistry, and Analytical Chemistry. The elements are treated of in 78 pages, the necessary information, including tests, being given concisely and clearly. In the part on Synthetical Chemistry we find an excuse for quarreling with the authors: they do not tell us how to make antipyrin, thallin, kairin and some of the other substances that have been brought out by the attempts to make quinine synthetically. The chapter on urine analysis is incomplete. But for all this we do not know of a laboratory guide that is better suited for the student, and especially for medical students. It contains all that any medical student can hope to learn, with directions how to do it—and very much more than many teachers of medical chemistry know. It is *the* laboratory manual for the student—and no one can learn chemistry outside of a laboratory. As will be seen, much of the table of contents is given on the title page.

BERND'S PHYSICIAN'S POCKET REGISTER. Henry Bernd & Co., 2,631 Chestnut St., St. Louis, Mo.

This is a perpetual visiting list and physician's account book, most conveniently arranged. It contains no "dose list" or other printed matter generally found in visiting lists, but as a register, account book and pocket ledger it stands at the head. It contains an erasive memorandum tablet, on which the visits to be made during the day may be recorded. It is elegantly bound in full seal.

MISCELLANEOUS.

CHOLERA IN INDIA.—A Reuter telegram from Simla, of August 15, states that in the Northwest Provinces 70,000 persons died from cholera during June and July; but thus far this report has not been confirmed.

"EL SEHA" is the title of a monthly Review of Public Hygiene and Medical Science, the first number of which appeared on August 1. The editorial corps consists of Dr. H. R. Greene Pacha, Dr. Issa Pacha Hamdi, Dr. Mahmoud Bey Sidky, Dr. Mahmoud Bey Mustapha, Dr. Hassan Effendi Kourchid, Mr. J. Price, Dr. Hassan Bey Rifki, and Ibraham Bey Mustapha.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 27, 1887, TO SEPTEMBER 2, 1887.

Lieut.-Col. Joseph R. Smith, Surgeon, ordered to report in person to the Surgeon-General of the Army, on September 2, 1887, on business connected with the public service, and on completion thereof to return to his proper station. Par. 9, S. O. 198, A. G. O., August 26, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, DURING THE WEEK ENDING SEPTEMBER 3, 1887.

Medical Director Richard Dean, detached from duty as member of Examining and Retiring Boards, and to Hospital, Chelsea, Mass.

Medical Director George Peck, orders as delegate to International Medical Congress revoked.

Surgeon M. H. Simons, detached from "Constellation," and to the Naval Academy.

Surgeon B. F. Rogers, detached from Marine Rendezvous, New York, and to the "Alliance."

Asst. Surgeon James G. Field, detached from the "Vermont," and to Marine Rendezvous, N. Y.

Asst. Surgeon C. P. Henry, ordered to the "Ossipee."

P. A. Surgeon G. P. Lumsden, to the "Boston."

Asst. Surgeon Louis W. Atlee, restored to duty.